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ALKIN COMPRESSORS

W4 SERIES HIGH PRESSURE BREATHING AIR COMPRESSOR INSTRUCTION MANUAL

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PART 1

1-1 FOREWORD

Your new brand ALKIN air compressor will provide you with the solid and reliable performance that you should expect from a heavy-duty industrial air compressor.

Please read this manual carefully before you operate your compressor.This will enable you to start-up your compressor in the proper manner, as well as maintain it using the simple instructions in the maintenance section of this manual. This way your air compressor will always be in top operating condition, giving you years long trouble free service.

ALKIN Air Compressors are well known with their faultless design and unique features combined with the best materials and workmanship. Some of the most important features are Overhung crankshaft design, one piece connecting rods, and highly efficient valves which all add to the superior and lasting performance of the ALKIN compressors.

Your compressor is backed up with worldwide sales and service organization, ready to accommodate your everyday needs for parts & service.

For any questions, please feel free to call our Menderes plant, in İzmir-Turkey. Here are the contact details:

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PART 1

1-2 INTRODUCTION

This manual consists of 3 main sections:

1. **Section 1 – General Information and rules**
   In this section general rules for safety, carriage, general introduction, location selection, installation, operation, storage, maintenance & trouble shooting and warranty terms are taking place. These are general rules that need to be observed in all air applications.

2. **Section 2- Special Data and Instructions**
   In this section, the specific data and rules concerning with W4 series compressors are indicated.

3. **Section 3 – Parts Lists**
   The spare parts and the equipments lists of W4 series compressors take place in this section.

PART 1

1-3 SAFETY

1.3.1 GENERAL

All ALKIN air compressors are designed and manufactured with equipment and components that allow safe operation of the compressors. However, it is the user's responsibility to safely operate and maintain the compressor, observe the rules and instructions, as well as the local safety codes, to minimize the risk of accidents and injuries. The following safety precautions are offered only as a guideline, and it is recommended to follow them along with the local safety codes and regulations.

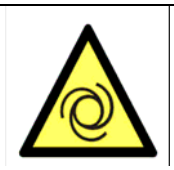
This compressor should only be operated by those who have been trained to do so, and who have read and understood the contents of this manual. Failure to do so will increase the risks of accidents and bodily injuries. Please read also the manual of the equipments (electric, etc.) delivered together with the compressor and perform the instructions.

Never start this compressor unless it is safe to do so. Do not operate it with known unsafe condition. Tag the compressor and render it inoperative by disconnecting the power supply, so that others who may not know of the unsafe condition will not attempt to operate it until the unsafe condition is corrected.

Install, use and operate this air compressor only in full compliance with all pertinent requirements and all relevant federal, state and local codes and regulations.

Do not modify this compressor and do not use beyond the specified limits (pressure,etc.) and speeds except with prior written approval of ALKIN.

1.3.2 SAFETY LABELS

				
Earthing	**Hot Surfaces-Do Not Touch**	**Electrical Shock**	**Can Start Automatically**	**Caution Moving Parts**

1.3.3.PRESSURE RELEASE

Run the compressor to see if the safety valves are operating properly or not. See and ensure, safety valves are discharging the pressure on their adjusted pressure values. Do not open the oil filling plug or any other connection, tube, hose, fitting, valve etc. when the compressor is running or when it is standing by (in only automatic start/stop compressors waiting for the pressure switch signal to re-start). Switch off the main electrical switch, shut off the discharge valve and discharge all pressurized sections before attempting to dismantle such components.

Keep all persons away from the discharge opening of hoses, tools and accesssories during dicsharge. Do not use air pressure above 7 Bars (101 Psi) for blow cleaning purposes, without use of proper protective equipmen. Do not let the hoses move free or don't play games with the filling hoses as they may cause accidents and injuries.

Drain daily the condensate from the purifier, as it may accelerate the internal rusting and corrosion of the purifier.

1.3.4. FIRE AND EXPLOSION

Clean up oil spills immediately, if and when it occurs. Shut off the air compressor and allow it to cool. Keep sparks, flame and other sources of ignition away and do not allow smoking in the vicinity when checking and draining or adding oil. Do not permit liquids such as airline anti-icer system anti-freeze compound, or oil film or any other combustible substance to accumulate on any external or internal surfaces of the compressor. Wipe down with aqueous industrial cleaner or steam to clean as required. Do not use flammable solvents for cleaning purposes.

Disconnect the power supply prior to attempting any repair or cleaning. Tag the power supply to avoid unexpected start by someone else.

Keep electrical wiring, including terminals, in good condition. Replace any wiring that has cracked, cut, ebraded or otherwise degraded insulation or terminals that are worn, discolored and corroded. Keep all terminals clean and tight.

Keep grounded conductive objects such as tools, away from exposed live electrical parts such as terminals, to avoid arcing, which might serve as a source of ignition.

Keep a suitable BC or ABC fire extinguisher(s) nearby while servicing and operating the compressor. Keep oil rags, trash, leaves litter and other combustibles away from the compressor.

Do not spray volatile materials into the compressor intake, as serious damage to the compressor and personal injury or death may result.

1.3.5. MOVING PARTS

Keep hands, arms and other parts of the body and clothing away from the belts, pulleys and other moving parts. Do not attempt to operate the compressor with the canopy cover removed at flywheel side.

Wear snug fitting clothing and confine long hair when working around the compressor, especially when exposed to hot and/or moving parts. Make sure all persons are clear of the compressor prior to attempting to operate it.

Make adjustments only when the compressor is shut off. When necessary, make adjustments, then start the compressor to check if the adjustment is correct or not. If incorrect, shut the compressor, blow down the air, re-adjust, than re-start to check the adjustment.

Keep hands, feet, floors, controls and walking surfaces clean and free from oil, water, anti freeze or other liquids to minimize the possibility of slips, falls and shock hazard.

1.3.6. HOT SURFACES, SHARP EDGES AND SHARP CORNERS

Avoid physical contact with hot oil, hot surfaces, sharp edges and corners. Keep all parts of the body away from all points of air discharge and away from hot cylinder heads, discharge pipes and intercooler surfaces. Wear personal protective equipment, including gloves and protective hat when working on or around the compressor. Keep a first aid kit handy. Call for medical assistance promptly in case of injury. Don't ignore small cuts and burns as they may lead to infections.

1.3.7. TOXIC AND IRRITATING SUBSTANCES

Do not use air from this compressor for breathing unless it is equipped with proper purification equipment. **Make sure that Purifier Cartridge is installed inside the Purifier Housing.**

Operate the compressor only in well ventilated areas. Lubricants used in this compressor are typical synthetic oil. Accidental ingestion and skin contact should be avoided. Wash with soap and water after skin contact. If swallowed, call for medical treatment promptly.

1.3.8.ELECTRICAL SHOCK

Keep the compressor, hoses, tools and personnel at least 3 meters (10 ft) away from power lines, panel and underground cables. Keep all parts of the body and any hand held tools or other conductive objects away from exposed live parts of the electrical system. Maintain dry footing, stand on insulating surfaces, and do not contact any other portion of the compressor when making adjustments or repairs to exposed parts of the electrical system.

1.3.9. LIFTING AND CARRYING

If you must lift the compressor, lift in full compliance with codes and regulations. Make sure entire lifting, rigging and supporting structure has been inspected, is in good condition and has a rated capacity of at least the net weight of the compressor. If you are unsure of the weight, check before lifting.

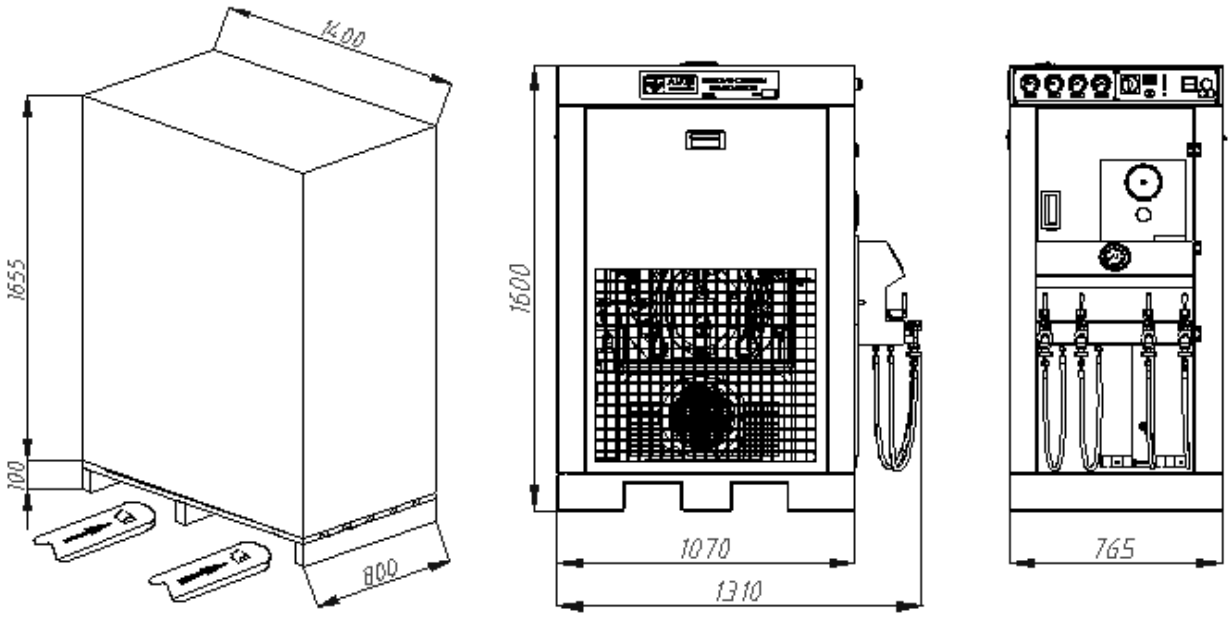
The distance between forklift's forks should be sufficient for lifting if the compressor will be carried and liftedwith the forklift. Moreover, the forklift must have a rated capacity of at least the net weight of the compressor. The forks of the F/L should be positioned under the compressor just like shown in the figure below. The height of the compressor from the ground must be max. 10 cm. during carriage. Do not distract the forklift operator while carriage.

Be sure lifting hook has a safety clamp, and ensure a robust fastening with tough ropes or chain. Avoid the compressor swinging while suspended, by using guide ropes. Keep all persons clear from under and away from the compressor when it is suspended.

Lift the compressor not higher than necessary. Keep lift operator in constant attendance whenever the compressor suspended. Set the compressor down on level surfaces, capable of carrying its full weight.

DO NOT RUN THE COMPRESSOR ON THE WOODEN PALLET WHERE THE UNIT IS MOUNTED FOR TRANSPORTATION PURPOSES.

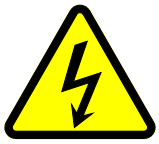
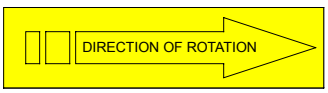
FIGURE 1

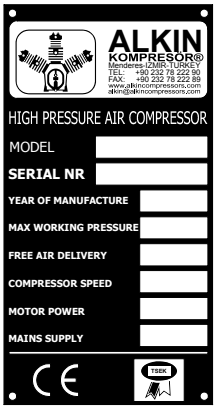
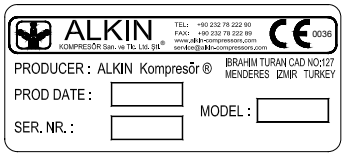
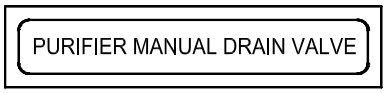


PART 1

1-4 GENERAL INFORMATION

1.4.1 Compressor Labels

SYMBOL	MEANING
	Electrical Shock
	Caution Moving Parts
	Can Start Automatically
	Hot Surfaces-Do Not Touch
	Earthing
	See The Instruction Manual
	Wear Ear Protectors when the unit is on
	Direction of Rotation
	Recommended Oil

	Location
	Air Intake
	Air Discharge
	ALKIN Contact Info
	Compressor Block Info
	**Compressor Info**
	**Purifier**
	**Purifier Manual Drain Valve**

1.4.2- Major Parts-Compressor

The compressor unit consist of following major assemblies:

- Compressor Block
- Drive Electric Motor
- Sub Frame
- Canopy
- Purifier
- Intake Filter
- Filter
- Water Separators
- Safety Valve After Each Stage
- Priority Valve
- Check Valve
- Drain Valve
- Filling Panel w 4 Filling Hoses
- Electrical Panel

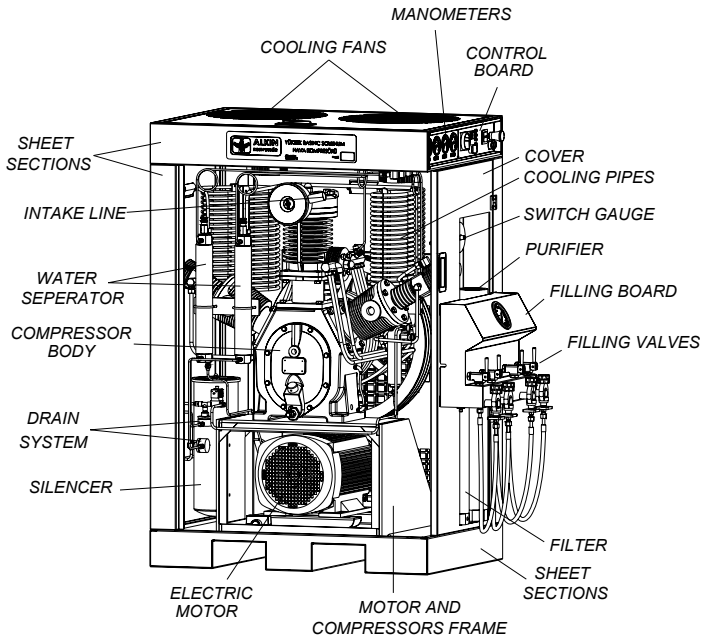
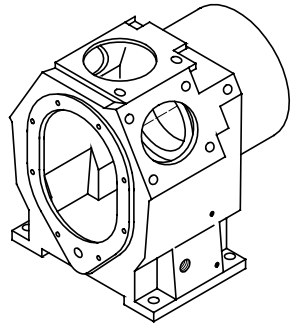
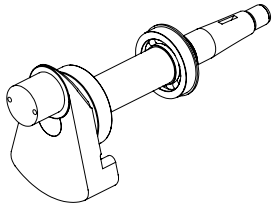


FIGURE 2

1.4.3- Major Parts-Compressor Unit

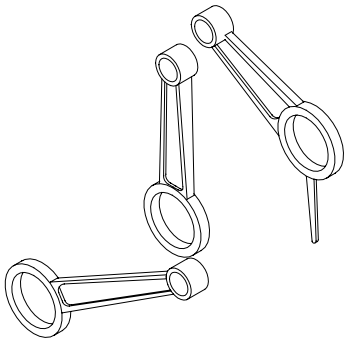


Crankcase:
This is the body that holds everything on it. It contains the connecting rods and oil that lubricate the system. The cylinders are mounted on it. Crankshaft is placed in the bearing holes inside the crankcase. It needs to be cleaned inside when the oil is changed. With its special overhung design, crankcase cover does not carry the bearing bushing, so it simplifies the cleaning process inside the crankcase. However, have the crankcase tested with proper testing equipment in general overhaul periods and replace it if exceeding the tolerance limits mentioned in parts list or has a visual defect. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.

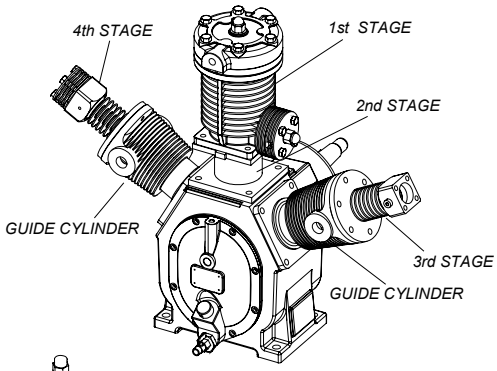


Crankshaft:
It is overhung type; that means the bearings are on one side, and the crank pin (where connecting rods are mounted) are on the other side. This unique feature allows usage of single piece connecting rods which are far more accurate and safer than split con rods. Replace this part when life of bearings is over. However, have the crankshaft tested with proper testing equipment in

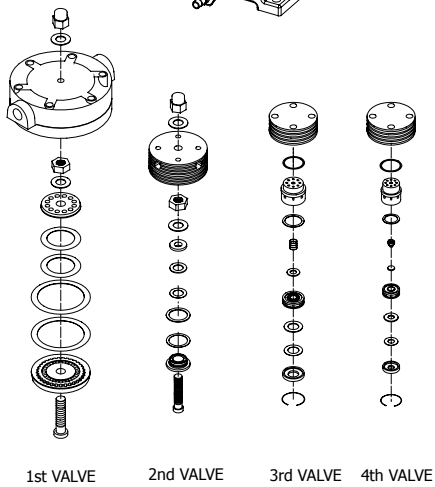
general overhaul periods and replace it if exceeding the tolerance limits mentioned in the parts book. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.



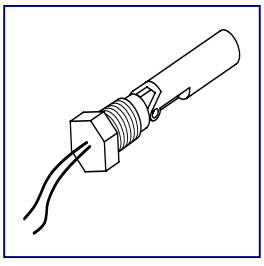
Connecting Rods :
There are three connecting rods of which both the same and the third one different. The connecting rod with the stick at the bottom part serves as lubricating stick. The connecting rods move with the rotation of crankshaft and the stick at the bottom of connecting rod lubricates the system by moving up & down in the oil. Connecting Rods have high quality copper-bronze alloy bushings. When these bushings are abraded, you should replace the connecting rods. Have the connecting rods tested with proper testing equipment in general overhaul periods and replace it if exceeding the tolerance limits mentioned in parts list or having a fault visible. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.



Cylinders:
They are casted seperately and are made of high grade casting materials, machined & honed to fined tolerances for long service life. The compression cylinders on the 3rd and 4th stages are mounted on guide cylinder to guide the crosshead piston ass'y. However, have the cylinders tested with proper testing equipment in general overhaul periods and replace them if exceeding the tolerance limits mentioned in parts list or having a fault visible. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.

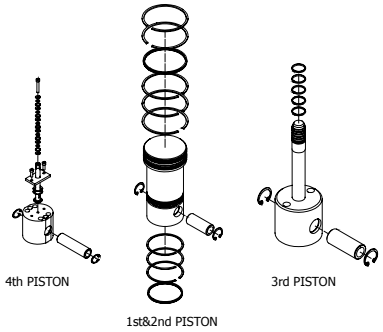


Valve Complete:
The complete valve consists of valves and up & down covers inside and is located on top of the cylinders. These complete valves should be maintained periodically and replaced if required. The valves must be replaced in every general overhaul period. Replacement of the valves can be made by ALKIN Service Personel or a trained costumer. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.

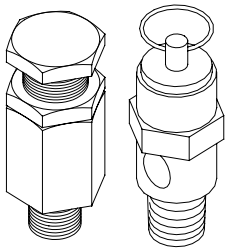


Oil Level Switch:
Oil level switch is located in the crankcase. When the oil level is down, float moves down with the oil, and switch turns the engine off. A signal will appear, which means that the motor has been stopped by the switch, because of oil level.

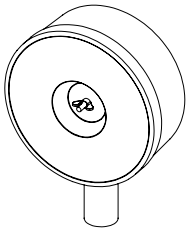
Breather:
All piston type machines have some compression leak through the rings into the crankcase. There is a breather system to prevent the pressure built up in the crankcase. In the air compressor the crankcase is connected to the inlet with a cupper pipe from where the breathing is made possible.



Pistons:
All stage pistons are made of high quality material and machined to fined tolerences with different charactresitic meeting different requirements for different stages. However, have the pistons tested with proper testing equipment in general overhaul periods and replace them if exceeding the tolerance limits mentioned in parts list or having a fault visible. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.



Safety Valves:
Safety valves are found at the end of each stage of compressor unit. All the safety valves are subject to pressure tests and working pressure are set accordingly. Therefore the safety valves prevent the danger incase of rising pressure in the compressor. Safety Valves are set and sealed by the manufacturer. Do not attempt to break the seal and change the settings of the safety valves. Otherwise you may cause serious injuries or accidents may result in death. Check the safety valves in every general overhaul against leakages, by using a foam water, and replace if necessary. Return the old safety valves back to the manufacturer. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.

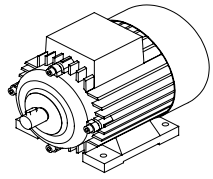


Intake Filter:
Inlet Filter is used to filter the air particles in the first stage. Replace the inlet filter element in the periods due to MAINTENANCE TABLE.

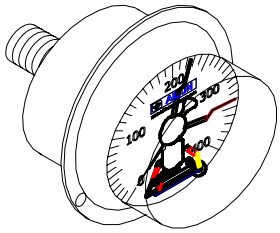
1.4.4 Major Parts-Compressor System

Sub-base:
This is the part carrying the motor and compressor and has been supported with 4 vibration mounts. Consult our factory incase of any failure on the sub-base.

Canopy:
Enclosed canopy is designed so that the unit will be carried easily by a transpallete or forklift and contains the various components and electrical panel on it. Covers on four sides of the canopy can be easily opened to reach the compressor unit. It's unnecessary to replace the canopy unless the canopy breaks or cracks.



Electric Motor:
The compressor is driven by an electric motor and it's belt driven.



Pressure Switch :
Pressure Switch enables the compressor stop and restart automatically between the adjusted pressure limits. SEE THE ADJUSTMENTS PART FOR ADJUSTING THE PRESSURE SWITCH.
ANY ADJUSTMENT OVER THE LIMITS ON THE PRESSURE SWITCH, WILL REQUIRE AN ADJUSTMENT ALSO ON SAFETY VALVES. THAT'S WHY YOU SHOULD NOT CHANGE THE PRESSURE VALUES OF PRESSURE SWITCH.
IF YOU SHOULD MAKE AN ADJUSTMENT ON PRESSURE SWITCH, PLEASE CONSULT THE NEAREST ALKIN DEALER OR ALKIN.

Automatic Drain Valves:
Springs in automatic drain valves are over the piston in high pressures and under the piston in low pressure valves. Thus, the surface where low pressure acts on is larger than the surface where the high pressure effectively acts on the piston. Therefore the force on the top is larger and causes the piston to sit and seal the high pressure vent port. Automatic drain valves is controlled by a solenoid. It receives compressed air from the 2nd stage air inlet and sends it over 4 drain valves forcing them to stay closed. When the solenoid is deenergised, it removes the control air on the top of the drain valve pistons, allows the high pressure acting from the bottom of the pistons, to open and perform drain operation.
CHECK IF AUTOMATIC DRAIN VALVES ARE OPERATING PROPERLY OR NOT ACCORDING TO THE TIME PERIODS GIVEN IN MAINTENANCE TABLE. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.

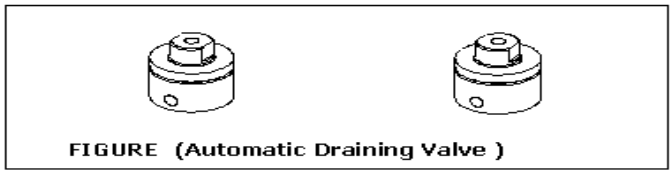
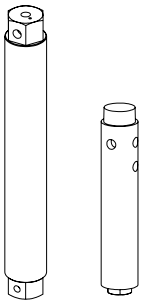


FIGURE (Automatic Draining Valve)

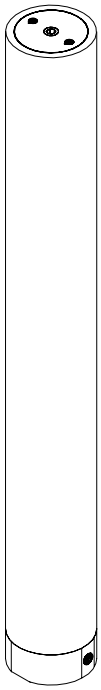
Inter Coolers and After Cooler:
These are the cooling tubes that cool the air getting warm after compressed in stages which are located interstages and at the discharge of the final stage of the compressor. INTERCOOLERS AND AFTER COOLER ARE NOT NECESSARILY REPLACED UNLESS A WEARING, CRACKING OR BREAKING OCCURS.



Water Seperators:
They remove the water condensate from the compressed air occured in stages under pressure. There are total 3 water seperators on W4 Series.

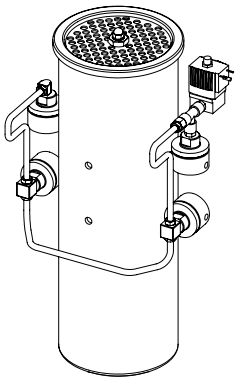
Filter: The fitler holds the particles and oil that may exist in the discharge air leaving the compressor. Filter is made of stainless steel. FILTER ELEMENT SHOULD BE REPLACED ACCORDING TO THE TIME PERIODS ON THE MAINTENANCE TABLE. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.

FILTER

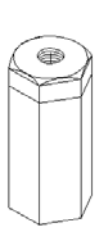


Purifier:
This is the filtration system that purifies the compressed air to prodcue breathing air comply with breathing air quality standards. Air compressed in the compressor stages finally enters the purifier. A refillable cartridge which contains the consumables performing the filtration is placed in the purifier housing. Refillable cartridges are more cost effective and environtment friendly compared to replacable cartridges. Consumables inside the cartridge removes the oil, odour and water condensate from the compressed air. After that clean air leaves the purifier to be given to the hoses or system. The purifier has a check valve at its inlet and a priority valve at the discharge. Consumables inside the Purifier Cartridge should be replaced periodically to have clean air comply with Breathing Air Standards at the discharge. For W4 series compressors, condensate collected inside the Purifier Housing should be drained manually after the filling procedures if it will not be used for more than . CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.

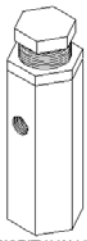
PURIFIER



Drain Collector:
This part is designed to decrease the noise level as much as possible which occurs during the discharge of the condensate in the compressed air.



CHECK VALVE



PRIORITY VALVE

Priority Valve:
Priority Valve does not let the air go unless the inlet pressure of the purifier reaches a certain value (Approximately 150 Bar-2175 Psi). At this pressure the filtration is much more efficient than any pressure. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.

Check Valve:
It does not let the compressed air inside the purifier goes back to the stages and protects the compressor to run under back pressure. CONSULT THE NEAREST ALKIN DEALER OR ALKIN FOR REPLACEMENT OR MAINTENANCE.

1.4.5- General Features

W4 series compressors are **four stage, reciprocating type, air cooled** and **splash lubricated** compressors.

Working pressure of W4 Series compressors varies from 100 Bar (1500 psi) to 415 Bar (6000 psi) depending on the cooling system, valves and covers installed and it ranges. **Do not attempt to modify compressor to operate at higher-pressure without written approval of ALKIN**. Failure to do so may result in heavy damage to equipment, injury or death.

Alkin W4 Series compressors are built with oversized intercoolers and aftercooler to allow superior performance, longer life, lower operating and discharge temparatures.

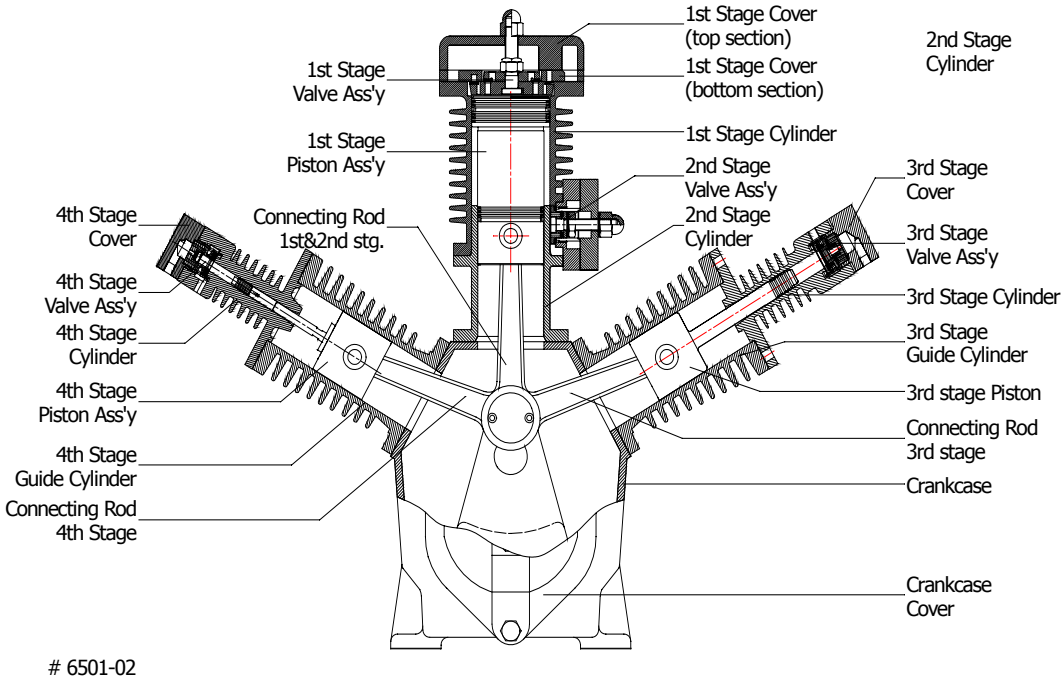


FIGURE 3

1st and 2nd stage cylinders are built in one shared cylinder body (see figure 5). 1st stage compression occurs while piston goes up, 2nd stage compression occurs while piston moving up & down.

3rd and 4th stage compressions occurs while 3rd and 4th stage pistons go up. 3rd and 4th stage pistons operate on 3rd and 4th stege guide pistons.

W4 series compressors, equiped with intercooling tubes between 1st&2nd and 2nd&3rd stages, 3rd&4th stages and aftercooler after 4th stage. There are water seperators, after 2nd&3rd stages intercooler outlet and aftercooler outlet. Each water seperator is automatically drained to discharge the condensate collected inside the water seperators. Automatic drain valve opens and drains the water condensate in the specific time periods. Automatic drain time periods and durations are determined by a timer inside the electrical panel (See control part). This timer can be adjusted for both functions. Standard factory setting is 10 minutes closed, 7 seconds open.

For W4 series compressors, the condensate may collect inside the purifier. Iit should be drained 2 times a day by opening the manual drain valve on the front panel of the compressor, after the compressor is stopped. This operation is important for the quality of the compressed air and lifetime of purifier cartridge.

Each stage has a safety valve to prevent unexpected pressure rises which may occur because of a defected valve or any other parts. Safety valves should be controlled periodically, against any adjustment problem or any troubles. (See the periodic maintenance table for control periods.)

W4 series compressors valves are designed to have an unobstructed passage of air with no pressure loss; they are easy to maintain and replace. Particular attention must be paid to maintenance of the valves as these valves are one of the most critical parts for proper operation of the compressor. Do not use oils other than the recommended oils in this manuel for keeping the valves clean and free of carbon. Inappropriate oils may cause carbonization which will occur on the valve discs and springs, resulting in improper sealing of valves. This will increase the operating temperatures which will cause the oil to deterioarite in a shorter time and effect the operation of the valves negatively.

Lubrication is provided by the stick at the bottom of 4th stage connecting rod. The connecting rods move with the rotation of the crankshaft and the stick at the bottom of connecting rod lubricates the system by moving up & down in the oil. Piston rings drag the oil and provides an ecomonical lubrication.

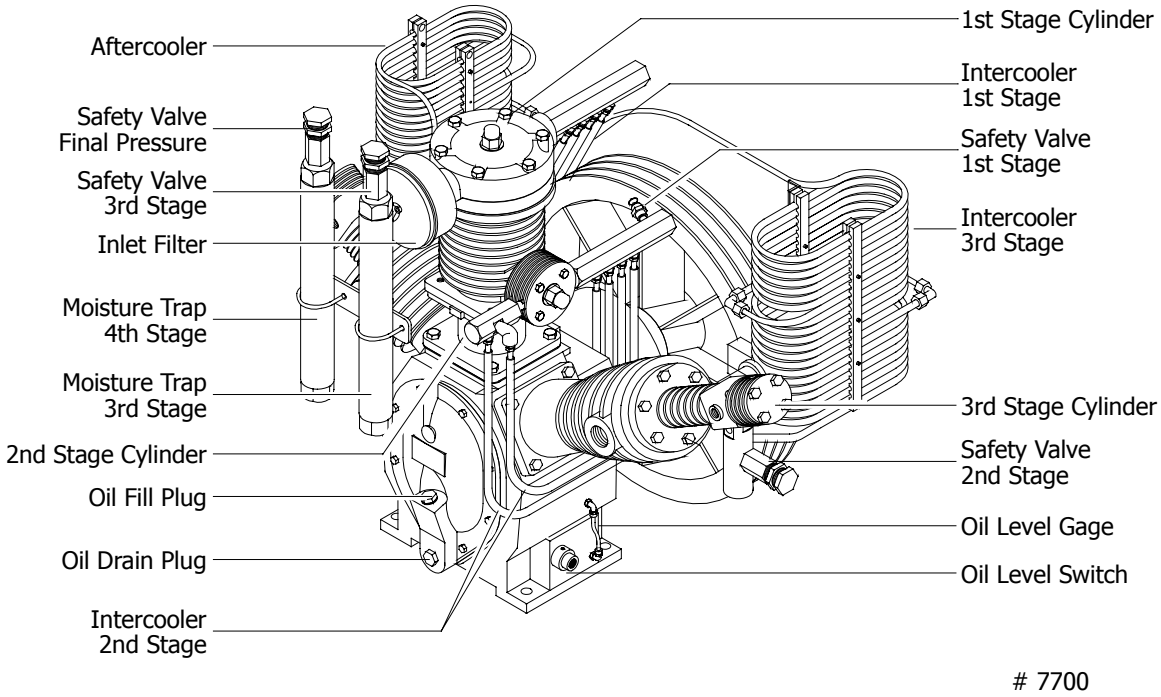


FIGURE 4

1.4.6- Lubrication System

Lubrication is performed with splash lubrication system. The stick at the bottom of connecting rod moves in oil and the connecting rod lubricates the stages by carrying the oil upstream with the oil received from the crankcase. Replace the compressor's oil due to maintenance table periods. This is quite important for the service life of compressor. See the oil replacement introduction for changing the oil.

1.4.7- Electrical Diagrams

There ise a Control Panel on W4 Compressors. Equipments on the control panel are listed below.

- 4 Pressure Gauges to read Interstage and Delivery Pressures
- Pressure Switchgauge
- YΔ Electric Panel
- Main Power Switch
- Hourmeter
- On-Off Buttons
- Emergency Stop Button

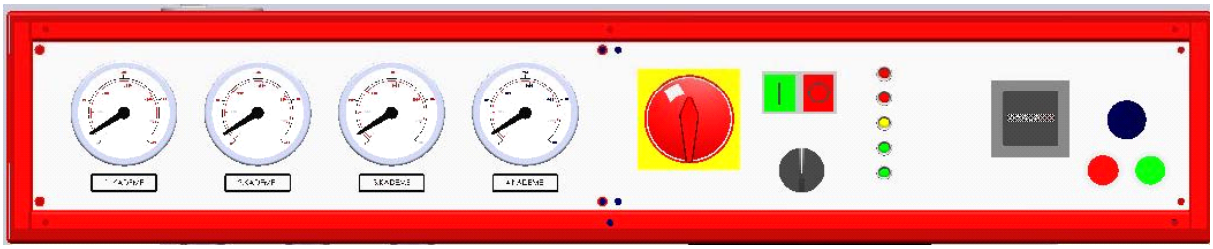
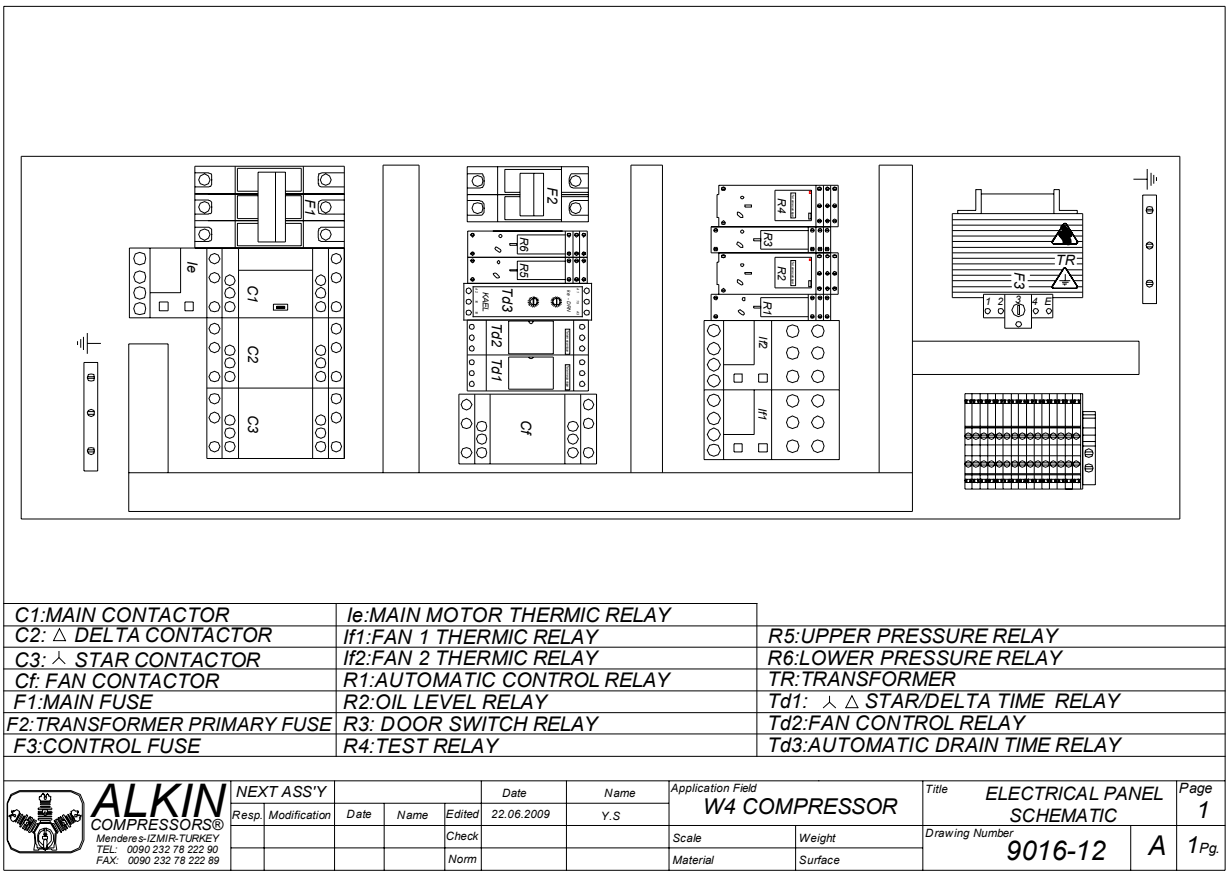


FIGURE 5



C1:MAIN CONTACTOR	Ie:MAIN MOTOR THERMIC RELAY	
C2: △ DELTA CONTACTOR	If1:FAN 1 THERMIC RELAY	R5:UPPER PRESSURE RELAY
C3: ⅄ STAR CONTACTOR	If2:FAN 2 THERMIC RELAY	R6:LOWER PRESSURE RELAY
Cf: FAN CONTACTOR	R1:AUTOMATIC CONTROL RELAY	TR:TRANSFORMER
F1:MAIN FUSE	R2:OIL LEVEL RELAY	Td1: ⅄ △ STAR/DELTA TIME RELAY
F2:TRANSFORMER PRIMARY FUSE	R3: DOOR SWITCH RELAY	Td2:FAN CONTROL RELAY
F3:CONTROL FUSE	R4:TEST RELAY	Td3:AUTOMATIC DRAIN TIME RELAY

ALKIN COMPRESSORS® Menderes-IZMIR-TURKEY TEL: 0090 232 78 222 90 FAX: 0090 232 78 222 89	NEXT ASS'Y					Date	Name	Application Field		Title		Page
	Resp.	Modification	Date	Name	Edited	22.06.2009	Y.S	W4 COMPRESSOR		ELECTRICAL PANEL SCHEMATIC		1
					Check			Scale	Weight	Drawing Number		
					Norm			Material	Surface	9016-12	A	1 Pg.

FIGURE 6

CODE	DESCRIPTION	VOLTAGE	POWER	POWER	POWER	CURRENT		
C1	Main Contactor	24V 50/60 HZ	7.5 KW	11 KW	15 KW	12	18	25
C2	Delta Contactor	24V 50/60 HZ	7.5 KW	11 KW	15 KW	12	18	25
C3	Star Contactor	24V 50/60 HZ	7.5 KW	11 KW	15 KW	12	18	25
Cf	Fan Contactor	24V 50/60 HZ	4 KW	4 KW	4 KW	9	9	9
TR	Transformer	380/24V	150 VA	150 VA	150 VA	10	10	10
F1	Main Fuse					32	40	50
F2	Transformer Primary Fuse					2	2	2
F3	Control Fuse					10	10	10
Ie	Main Motor Thermic					7-10	12-18	12-18
If1	Fan1 Thermic					0,63-1		
If2	Fan2 Thermic					0,63-1		
Td1	Star/Delta Time Reray	220/24V						
Td2	Fan Control Relay	220/24V						
Td3	Automatic Drain Relay	220/24V						
R1	Automatic Control Relay	24V						
R2	Oil level Relay	24V						
R3	Door Switch Realy	24V						
R4	Test Relay	24V						
R5	Upper Pressure Relay	24V						
R6	Lower Pressure Relay	24V						
ANŞ	Main Switch					32	40	50
Ps	Pressure Switch							
SV	Solenoid Valve	24V						
OLS	Oil Level Switch							
H	Hourmeter	24V/50 HZ						
L1..L5	Indicator Leds	24V						
Es	Emergency Button							
Start / Stop	Start / Stop Button							
SL	Automatic Start/Stop Manual Start /Automatic Stop							
Test	Test Button							
Reset	Reset Button							
SS	Door Switch							

TABLE 1

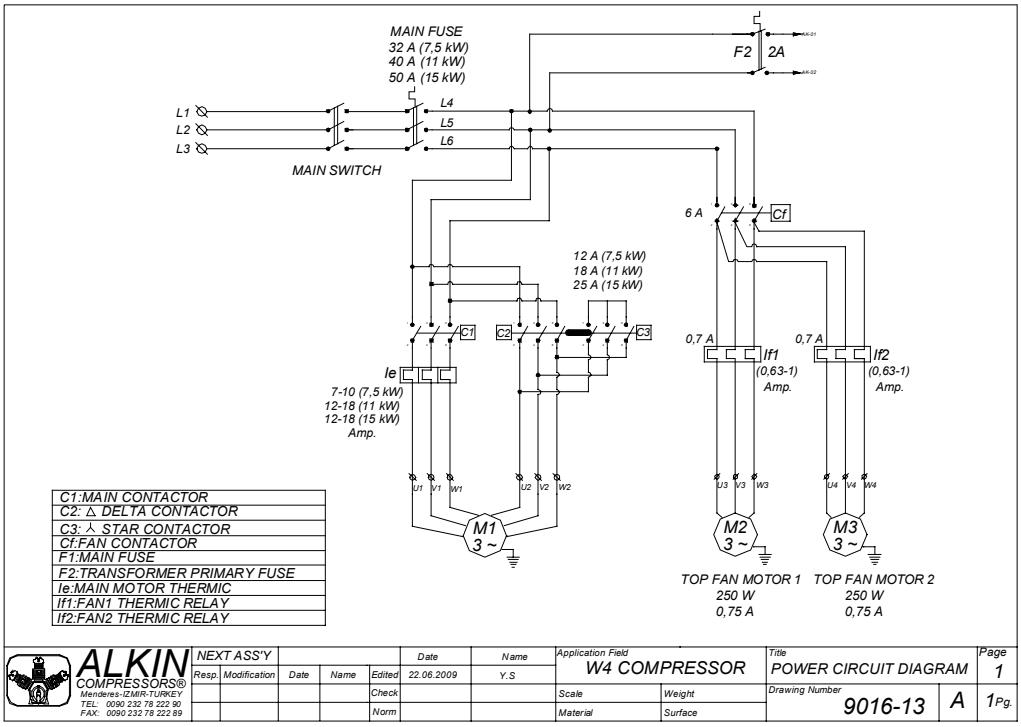


FIGURE 7

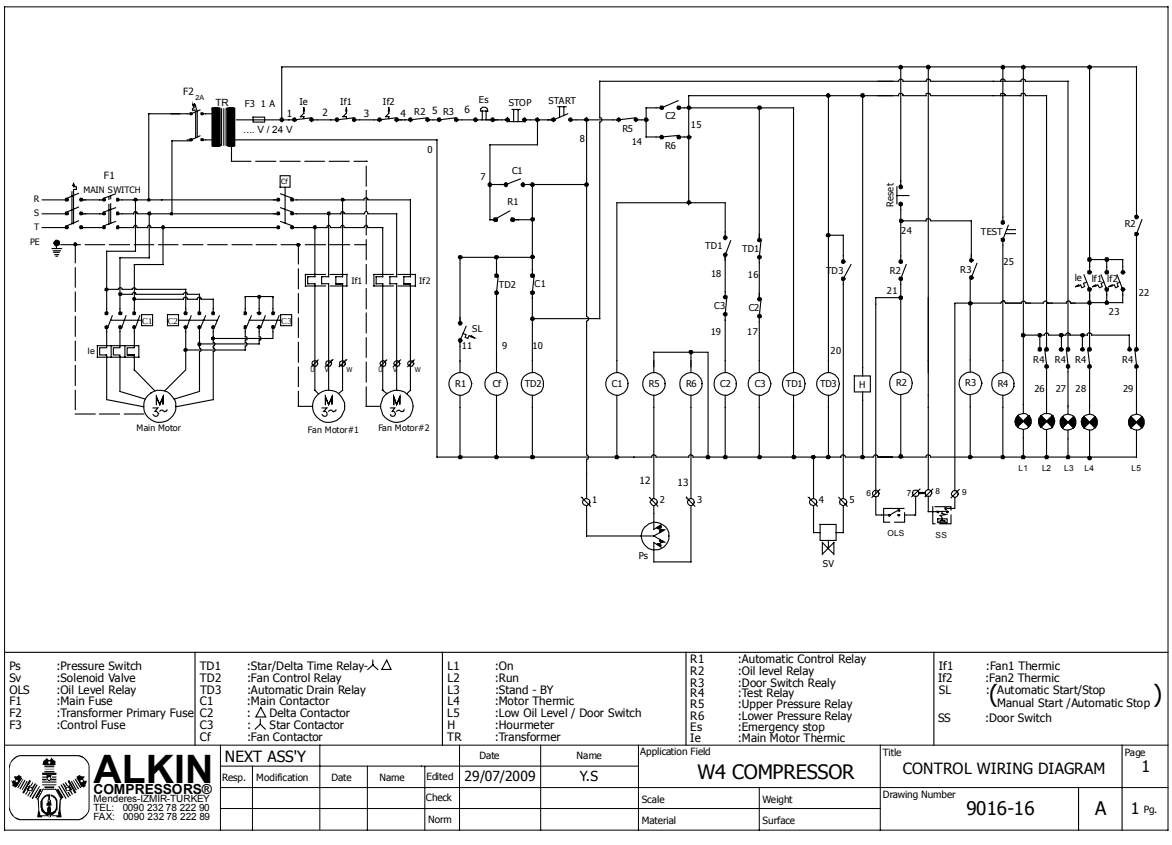


FIGURE 8

1.4.8- Figures

FIGURE 1	LIFTING AND CARRYING
FIGURE 2	MAJOR PARTS-COMPRESSOR
FIGURE 3	COMPRESSOR BARE BLOCK
FIGURE 4	COMPRESSOR BLOCK WITH TUBING
FIGURE 5	CONTROL PANEL
FIGURE 6	ELECTRICAL PANEL SCHEMATIC
FIGURE 7	POWER CIRCUIT DIAGRAM
FIGURE 8	CONTROL WIRING DIAGRAM
FIGURE 9	P&I DIAGRAM-W4 SINGLE PRESSURE
FIGURE 10	P&I DIAGRAM-W4 DUAL PRESSURE
FIGURE 11	LOCATION
FIGURE 12	BOTTLE FILLING

1.4.9- Tables

TABLE 1	ELECTRICAL PARTS SPECIFICATIONS
TABLE 2	TECHNICAL DATAS
TABLE 3	CABLE SPECIFICATIONS
TABLE 4	RECOMMENDED OILS
TABLE 5	COMMISSIONING REPORT – INITIAL START UP
TABLE 6	MAINTENANCE TABLE
TABLE 7	TORQUE VALUES

PART 1

1-5 P & I (PROCESS & INSTRUMENT) DIAGRAM

The following process and instrument diagrams are prepared with the drawing of the physical components rather than pneumatic symbols, in order to facilitate the understanding of the system by users who are not specifically trained to understand pneumatic symbols.

This compressor is designed to operate at a "single pressure" or "dual pressure". This is, when the compressed air is used to fill all the cylinders to that single pressure.

W4 Series compressors, "SINGLE PRESSURE"

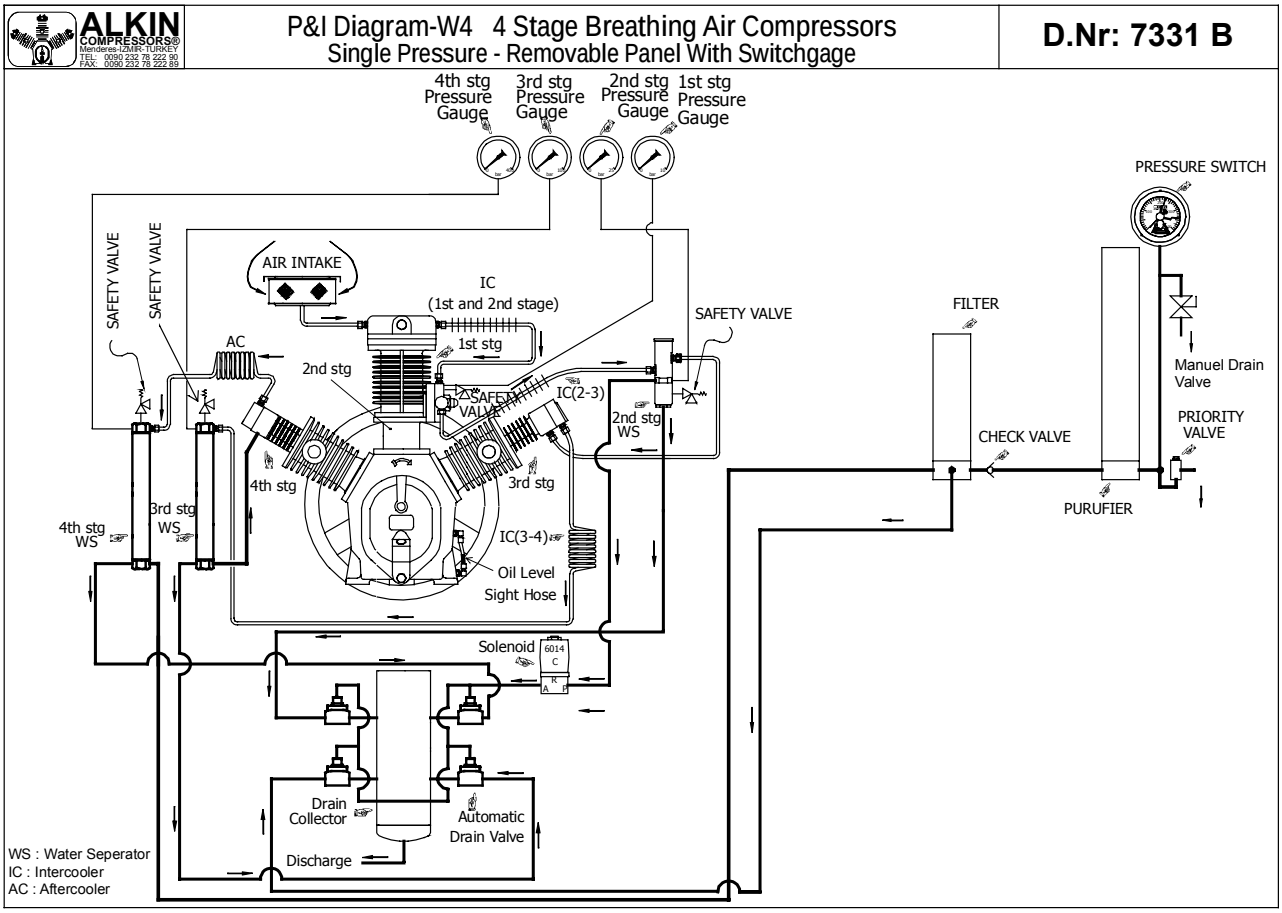


FIGURE 9

W4 Series Compressors, "DUAL PRESSURE",

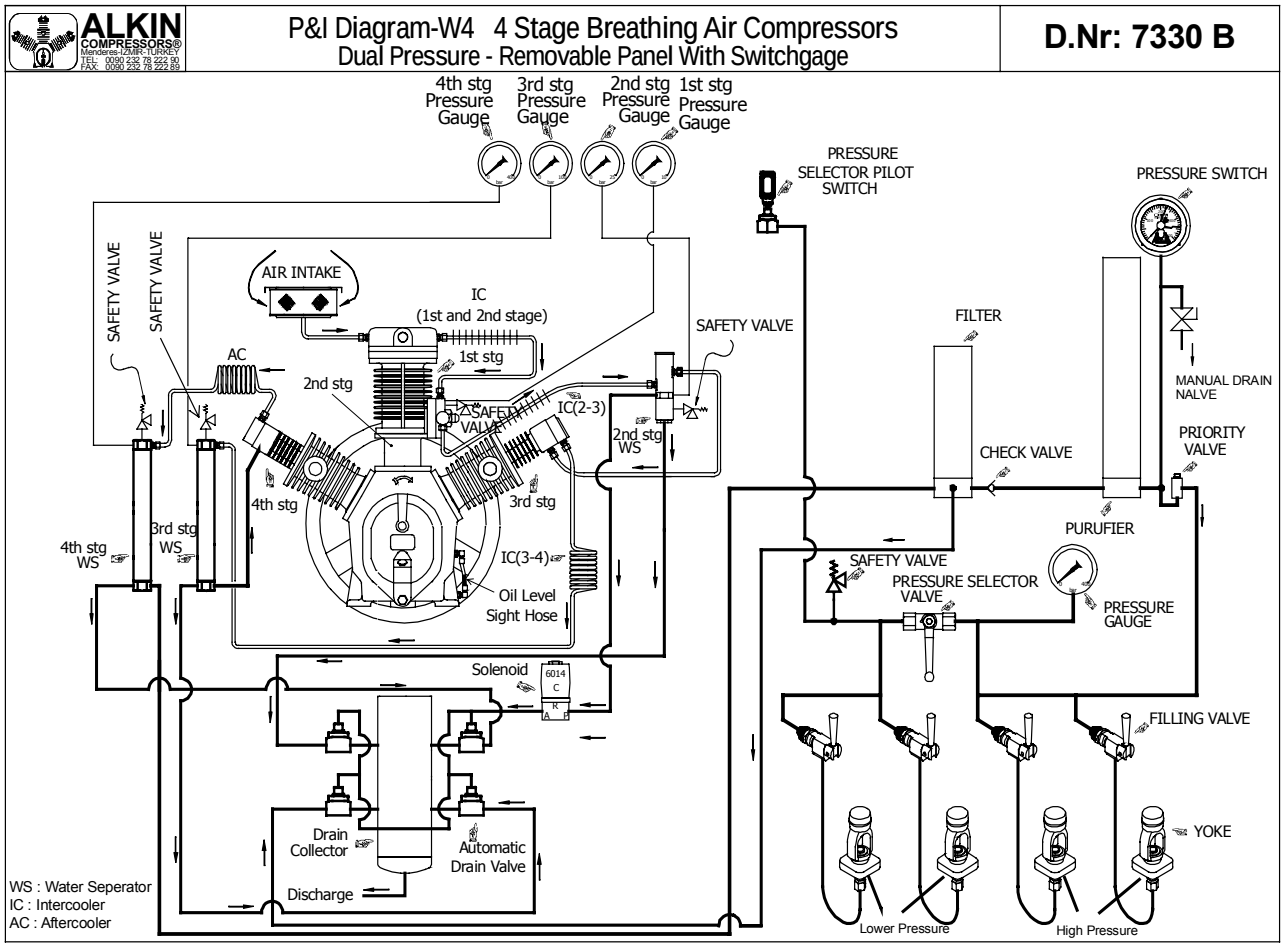


FIGURE 10

PART 1

1-6 OPERATION PRINCIPLE

P&I diagram have to be reviewed carefully to understand the principle of the operation.
Air is taken from the atmosphere, through the inlet filter into the 1st stage cylinder while the down-stroke of the 1st piston. The up-stroke motion of the 1st stage piston will cause compression and the air will be forced out of the cylinder through 1st stage discharge valve and the manifold. Air will then pass through the intercooler pipes between the 1st and 2nd stages and into the 2nd stage compression chamber. 2nd stage compression chamber is the volume between 2nd stage cylinder wall and piston's downstream part contrary to other 3 cylinders. Here, the air is compressed to the 2nd stage compression level with the up&down stroke motions of the piston and forced through the 2nd stage valves + 2nd stage intercooler + 2nd stage water separator + 3rd stage inlet valve into the 3rd stage cylinder. Here, the air is compressed with the up-stoke motion of the piston and passes to the 4 th stage in a similar way, and then forced out to the aftercooler and 4th stage water seperator for reaching the filter which cleans the air and seperates the particles and oil. At last the air passes through a non-return valve (check valve) and enters the purifier chamber, where it is purified and prepared to be used for breathing purposes. A priority valve (or minimum pressure valve) is installed at the exit of the purifier; this valve prevents the air to exit the prufier until the pressure builds to approximately 150 bars (2175 psi), a pressure level where the purification process is more efficient than at lower pressures. The air is then ready to be directed to a filling panel and to the cylinders to be filled with proper connections.

Intercoolers and the aftercooler are designed to dissipate the heat generated by the compression stages, reducing the air temperature, providing the water vapors to condensate and settle in the bottom sections of the water separators. Automatic drain valves are installed onto the water seperator and filters. Automatic Drain valves are controlled by 3 ways solenoid valve. Solenoid valve cuts off or opens the control air going to automatic drain valves, thus let the drain valves open and close.

Solenoid itself is controlled by a timer in the electrical panel. The dual time adjustment on this relay allows to adjust the duration (t1~10 min) during which the solenoid will remain energised (=the drain valve will remain closed), and the length of time (t2 ~ 7 seconds) during which the solenoid will become de-energised (=the drain valve will open and perform the drain function).

Compressor starts or stops automatically with the control of pressure switch. (See the part I-13 for adjustments and details).

Oil level could be followed from oil sight gauge at the right bottom section of the crankcase. Oil level switch is used to prevent the compressor operate without oil. The switch closes when the oil level decreases (contacts remain open) and so stops the electric motor by cutting off motor starter's control circuit. The flashing signal light in the instrument panel shows that the motor has stopped because of low oil level.

PART 1

1-7 DESCRIPTION OF CONTROLS

1.7.1- Start/Stop Controls:

Operation control of W4 series compressors are performed in 2 ways:

1.7.1.1- Automatic Stop/Manual Start:

W4 Series have a control switch on the control panel where you can change the operation control. If you turn this switch to Automatic Stop/Manual Start mode the compressor will automatically stop when it reaches the delivery pressure but will not restart automatically. You need to press on the start button to restart the unit.

1.7.1.2- Automatic Start/Stop:

W4 series compressors have a pressure control switch which cuts off the electric motor control when the compressor reaches the adjusted upper pressure. When the presssure drops to the adjusted lower pressure the pressure switch cuts in to restart the compressor. If the motor is stopped by the pressure switch, top cooling fans will continue to operate for a while. (Top cooling fans operation time depends on the ambient temperature and changes from 4 to 10 minutes)

1.7.2- Drain Controls:

Drain control of W4 Series Compressors is performed in one way:

1.7.2.1- Automatic Drain:

W4 Series compressors has automatic drain control. These drain valves are controlled by 3 way Solenoid Valve which is normally closed. This solenoid valve supplies or cuts the control air on the drain valves, thus letting them to open or close. The solenoid valve itself is controlled by a timer installed in the electrical panel. The dual time adjustment on this timer allows to adjust the time period (t1~10 min) which the solenoid will remain energised (=the drain valve will remain closed), and the duration(t2 ~ 7 seconds) during which the solenoid will be de-energised (=the drain valve will open and perform the drain function). Drain timers where the period and duration of of automatic drain is adjusted shown below:

PART 1
1-8 MODEL DESIGNATION

W4 SERIES COMPRESSOR

Bare Compressor Model W–
Cylinders onfiguration
4-Number of Stages

PART 1
1-9 TECHNICAL SPECIFATIONS AND USER RECORDS PLEASE COMPLETE MISSING INFORMATION ON THE TABLES BELOW ACCORDING TO THE LABELS AND TECHNICAL SPECIFICATIONS OF THE UNIT YOU OWN AND KEEP THE TABLES FOR FUTURE REFERANCE.

W4 (7.5 KW) TECHNICAL DATAS

COMPRESSOR DATA			
1	MODEL	W4 SERIES COMPRESSOR	
2	MEDIUM	AIR	
3	INLET PRESSURE	ATMOSPHERIC	
4	RATED FREE AIR DELIVERY (FREE AIR DELIVER AT 225 BAR DELIVERY PRESSURE)	394 LT/MIN.	
5	WORKING PRESSURE (CAN BE SET AT ANY PRESSURE BETWEEN 100 BAR AND 415 BAR ACCORDING TO THE CUSTOMERS NEEDS IN THE FACTORY)		
6	MAX. WORKING PRESSURE	415 BAR	
7	NO. OF CYLINDERS	4	
8	NO. OF STAGES	4	
9	CYLINDER BORE-1st STAGE	4,5"	
10	CYLINDER BORE-2nd STAGE	3 13/16"	
11	CYLINDER BORE-3rd STAGE	1 9/16"	
12	CYLINDER BORE-4th STAGE	9/16"	
13	COMPRESSOR FLYWHEEL DIAMETER	610mm.	
14	PISTON STROKE	4"	
15	COMPRESSOR SPEED	620-650 RPM	
16	INTERMEDIATE PRESSURE-1st STAGE	@ 225 Bar working pressure	@310 Bar working pressure
17	INTERMEDIATE PRESSURE-2nd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
18	INTERMEDIATE PRESSURE-3rd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
19	INTERMEDIATE AIR TEMPERATURE-1st STAGE	@ 225 Bar working pressure	@310 Bar working pressure
20	INTERMEDIATE AIR TEMPERATURE-2nd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
21	INTERMEDIATE AIR TEMPERATURE-3rd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
22	INTERMEDIATE AIR TEMPERATURE-4th STAGE	@ 225 Bar working pressure	@310 Bar working pressure
23	COMPRESSOR V-BELT SIZE AND NUMBER	/ 3	
24	COMPRESSOR OIL CAPACITY	5 LT	
25	COMPRESSOR OIL	ANDEROL 555	
26	NOISE LEVEL	Max.85 dB	
27	AMBIENT TEMPERATURE	BETWEEN +5 º C and +45 º C	
28	COMPRESSORS MAX. INCLINATION (OIL LEVEL SHOULD BE AT MAX. LEVEL AND NOT EXCEEDED WHILE IT'S IN NORMAL POSITION)	5°	
29	COMPRESSOR DRIVE TYPE	BELT DRIVEN	
30	COMPRESSOR LUBRICATION TYPE	SPLASH LUBRICATED	
31	OPERATION (START/ STOP) CONTROL	AUTOMATIC	
32	DRAIN CONTROL	AUTOMATIC	
33	COMPRESSOR WEIGHT		
34	COMPRESSOR DIMENSIONS (Width x Length x Height)		

ELECTRIC MOTOR DATA		
1	MOTOR POWER	7.5KW 10HP ELECTRIC MOTOR
2	OPERATING VOLTAGE	
3	FREQUENCY	
4	PHASE	
5	MAKER AND SERIAL NUMBER	
6	WEIGHT	
7	DIMENSIONS (Width x Length x Height)	
8	SPEED	
9	MOTOR PULLEY DIAMETER	
10	PROTECTION CLASS	
11	INSULATION CLASS	
12	CURRENT RATING	
13	FULL LOAD CURRENT	
14	PHASE PROTECTION CLASS	
15	OFF LOAD CURRENT	

W4 (11 KW) TECHNICAL DATAS

COMPRESSOR DATA			
1	MODEL	W4 SERIES COMPRESSOR	
2	MEDIUM	AIR	
3	INLET PRESSURE	ATMOSPHERIC	
4	RATED FREE AIR DELIVERY (FREE AIR DELIVER AT 225 BAR DELIVERY PRESSURE)	557 LT/MIN.	
5	WORKING PRESSURE (CAN BE SET AT ANY PRESSURE BETWEEN 100 BAR AND 415 BAR ACCORDING TO THE CUSTOMERS NEEDS IN THE FACTORY)		
6	MAX. WORKING PRESSURE	415 BAR	
7	NO. OF CYLINDERS	4	
8	NO. OF STAGES	4	
9	CYLINDER BORE-1st STAGE	4,5"	
10	CYLINDER BORE-2nd STAGE	3 13/16"	
11	CYLINDER BORE-3rd STAGE	1 9/16"	
12	CYLINDER BORE-4th STAGE	9/16"	
13	COMPRESSOR FLYWHEEL DIAMETER	610mm.	
14	PISTON STROKE	4"	
15	COMPRESSOR SPEED	820-850 RPM	
16	INTERMEDIATE PRESSURE-1st STAGE	@ 225 Bar working pressure	@310 Bar working pressure
17	INTERMEDIATE PRESSURE-2nd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
18	INTERMEDIATE PRESSURE-3rd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
19	INTERMEDIATE AIR TEMPERATURE-1st STAGE	@ 225 Bar working pressure	@310 Bar working pressure
20	INTERMEDIATE AIR TEMPERATURE-2nd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
21	INTERMEDIATE AIR TEMPERATURE-3rd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
22	INTERMEDIATE AIR TEMPERATURE-4th STAGE	@ 225 Bar working pressure	@310 Bar working pressure
23	COMPRESSOR V-BELT SIZE AND NUMBER	/ 3	
24	COMPRESSOR OIL CAPACITY	5 LT	
25	COMPRESSOR OIL	ANDEROL 555	
26	NOISE LEVEL	Max.85 dB	
27	AMBIENT TEMPERATURE	BETWEEN +5 º C and +45 º C	
28	COMPRESSORS MAX. INCLINATION (OIL LEVEL SHOULD BE AT MAX. LEVEL AND NOT EXCEEDED WHILE IT'S IN NORMAL POSITION)	5°	
29	COMPRESSOR DRIVE TYPE	BELT DRIVEN	
30	COMPRESSOR LUBRICATION TYPE	SPLASH LUBRICATED	
31	OPERATION (START/ STOP) CONTROL	AUTOMATIC	
32	DRAIN CONTROL	AUTOMATIC	
33	COMPRESSOR WEIGHT		
34	COMPRESSOR DIMENSIONS (Width x Length x Height)		

ELECTRIC MOTOR DATA		
1	MOTOR POWER	11KW 15HP ELECTRIC MOTOR
2	OPERATING VOLTAGE	
3	FREQUENCY	
4	PHASE	
5	MAKER AND SERIAL NUMBER	
6	WEIGHT	
7	DIMENSIONS (Width x Length x Height)	
8	SPEED	
9	MOTOR PULLEY DIAMETER	
10	PROTECTION CLASS	
11	INSULATION CLASS	
12	CURRENT RATING	
13	FULL LOAD CURRENT	
14	PHASE PROTECTION CLASS	
15	OFF LOAD CURRENT	

W4 (15 KW) TECHNICAL DATAS

	COMPRESSOR DATA		
1	MODEL	W4 SERIES COMPRESSOR	
2	MEDIUM	AIR	
3	INLET PRESSURE	ATMOSPHERIC	
4	RATED FREE AIR DELIVERY (FREE AIR DELIVER AT 225 BAR DELIVERY PRESSURE)	594 LT/MIN.	
5	WORKING PRESSURE (CAN BE SET AT ANY PRESSURE BETWEEN 100 BAR AND 415 BAR ACCORDING TO THE CUSTOMERS NEEDS IN THE FACTORY)		
6	MAX. WORKING PRESSURE	415 BAR	
7	NO. OF CYLINDERS	4	
8	NO. OF STAGES	4	
9	CYLINDER BORE-1st STAGE	4,5"	
10	CYLINDER BORE-2nd STAGE	3 13/16"	
11	CYLINDER BORE-3rd STAGE	1 9/16"	
12	CYLINDER BORE-4th STAGE	9/16"	
13	COMPRESSOR FLYWHEEL DIAMETER	610mm.	
14	PISTON STROKE	4"	
15	COMPRESSOR SPEED	910-940 RPM	
16	INTERMEDIATE PRESSURE-1st STAGE	@ 225 Bar working pressure	@310 Bar working pressure
17	INTERMEDIATE PRESSURE-2nd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
18	INTERMEDIATE PRESSURE-3rd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
19	INTERMEDIATE AIR TEMPERATURE-1st STAGE	@ 225 Bar working pressure	@310 Bar working pressure
20	INTERMEDIATE AIR TEMPERATURE-2nd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
21	INTERMEDIATE AIR TEMPERATURE-3rd STAGE	@ 225 Bar working pressure	@310 Bar working pressure
22	INTERMEDIATE AIR TEMPERATURE-4th STAGE	@ 225 Bar working pressure	@310 Bar working pressure
23	COMPRESSOR V-BELT SIZE AND NUMBER	/ 3	
24	COMPRESSOR OIL CAPACITY	5 LT	
25	COMPRESSOR OIL	ANDEROL 555	
26	NOISE LEVEL	Max.85 dB	
27	AMBIENT TEMPERATURE	BETWEEN +5 º C and +45 º C	
28	COMPRESSORS MAX. INCLINATION (OIL LEVEL SHOULD BE AT MAX. LEVEL AND NOT EXCEEDED WHILE IT'S IN NORMAL POSITION)	5°	
29	COMPRESSOR DRIVE TYPE	BELT DRIVEN	
30	COMPRESSOR LUBRICATION TYPE	SPLASH LUBRICATED	
31	OPERATION (START/ STOP) CONTROL	AUTOMATIC	
32	DRAIN CONTROL	AUTOMATIC	
33	COMPRESSOR WEIGHT		
34	COMPRESSOR DIMENSIONS (Width x Length x Height)		

	ELECTRIC MOTOR DATA	
1	MOTOR POWER	15KW 20HP ELECTRIC MOTOR
2	OPERATING VOLTAGE	
3	FREQUENCY	
4	PHASE	
5	MAKER AND SERIAL NUMBER	
6	WEIGHT	
7	DIMENSIONS (Width x Length x Height)	
8	SPEED	
9	MOTOR PULLEY DIAMETER	
10	PROTECTION CLASS	
11	INSULATION CLASS	
12	CURRENT RATING	
13	FULL LOAD CURRENT	
14	PHASE PROTECTION CLASS	
15	OFF LOAD CURRENT	

PART 1

1-10 INSTALLATION

1.10.1- INSPECTION

The compressor should be inspected and checked for the following when received:

1.Check if any damage exists during shipping, handling, etc.
2.Check the compressor nameplate to verify the equipment confirms the working conditions.
3.Check the electrical motor nameplate to verify the compliance with the available power and electrical supply. (for electric driven models)
4.Check the compressor if it is loaded with oil or not.
5.Check the purifier if the cartridge is installed or not.
6.Check if the intake filter is installed.

1.10.2-LOCATION

⚠ IMPORTANT – READ CAREFULLY AND FOLLOW THE INSTRUCTIONS BELOW

Location where the compressor is installed determines to a considerable extent the overall performance and service life of the unit. Compressor should be located in an area that is dry and sheltered, well ventilated, not exposed to high ambient temperatures, air borne contaminants such as dust, fumes, lint, vapor, steam, gases, engine exhaust and other contaminant. Install the compressor at least 0.6 meter distance to surrounding walls, to insure adequate cooling and access for service.

The compressor must be installed to a strong and flat surface on which could resist well-enough to static compressor weight and to the dynamic forces during operation time. (preferably a 6" -150 mm-) concrete floor).

Place the compressor on a smooth and strong surface, which can resist against compressor weight and dynamic effects occur while compressor is operating (150mm tickness concrete surface is adviced). If there is no vibration more than a little, it is not necessary to fix the compressor from the rubber wedges to the ground. If it is necessary to fix it with bolts, provide the compressor standing smoothly by using shim. Do not apply too much force to fix the compressor, otherwise it may cause undesired tension on the frame. Use shim, and adjust the space between frame and the floor.

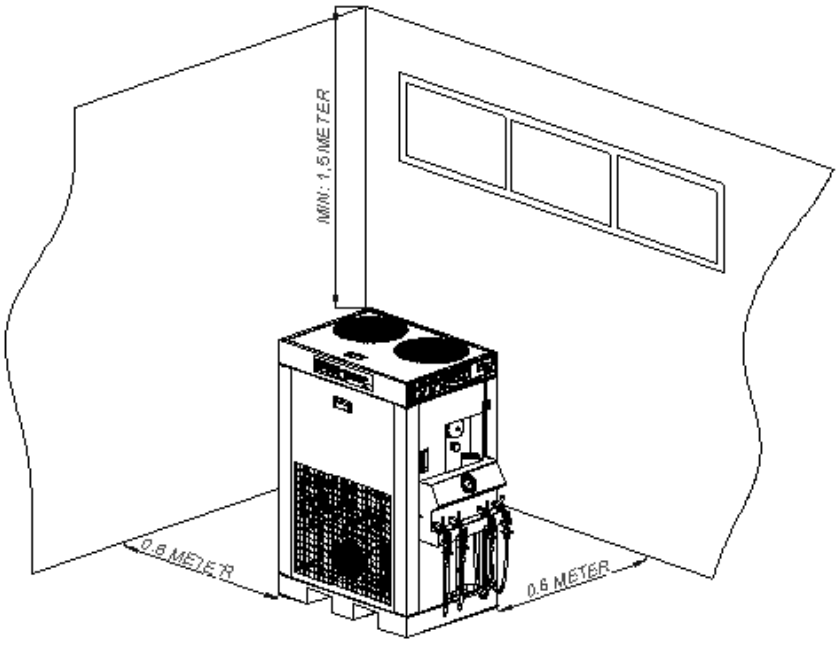


Figure 11

1.10.3-PIPING

Inlet Piping: If it is necessary to carry the inlet air filter to a clean location, due to excessive dirt, heat, dampness, or toxic fumes in the near vicinity of the compressor, use 1 ½ " diameter NON-TOXIC STEEL SPIRAL hose; the distance from the compressor should not exceed 3 meters (10 ft). If the intake filter will be somewhere outdoors, protect it with a proper hood against possible environmental effects like rain, fume, etc.

Discharge Piping – If piping is required between the compressor and the filling panel or fill station, depending on the length between the compressor and the filling panel properly selected stainless steel pipes must be used. The piping should be installed in full compliance with all Federal, State and local codes, standards and regulations. If required, consult the manufacturer for further information.

Drain Line Piping – There will be a hose line required from the bottom fitting through a drum, to discharge the water collected inside the silencer. Ensure the hose is connected well, against flying out and cause danger.

1.10.4-.ELECTRICAL CONTROLS

Although all electrical instructions addressed to the reader directly, the actual inspection, wiring, installation, maintenance, repair, etc. must be carried out by licensed and certified electricians only.

Make electrical connections to the compressor in accordance with the wiring diagrams and in full compliance with all applicable federal, state and local standards, codes and regulations, including those dealing with the earthing requirements. A few electrical checks should be made to insure that the first start up will be trouble free. Make the following checks before attempting any start up:

1. Check the line voltage. Verify that the compressor motor corresponds to these specifications.
2. Check all electrical connections for tightness, including those in the electrical panel of the compressor.
3. At start up, check the direction of rotation of the flywheel rotating in the direction of the arrow on it. Although a few minutes of operation in the wrong direction of rotation will not seriously damage the compressor, it will cause serious damages on the compressor if it runs in this position for a long time as the cooling air flow will be reversed, the compressor cylinders can not be cooled down.

1.10.5-WIRING

It is important to select the right size and capacity wire and fuses. You can find the details of the cable specifications in the previous part.

1.10.6-SHEAVE AND V-BELT ALIGNMENT

ALKIN W4 Series except 7.5kW driven models have automatic belt-tightening system, so users do not need to adjust the V-Belt tightness. Only if the V-Belt is attrited, user should check the V-Belt and replace it if necessary. On 7.5 kw driven W4 models there is a manual tightening system which needs to be periodically checked.

PART 1

1-11 STORAGE

If the compressor will not be working for a long time for any reason and stored idle during this time, it is suggested to do the following steps before putting it out of reach in order to keep it in good condition:

1-Start the compressor and run it for app. 15 minutes.
2-Check if there is any leak on the fittings, hoses, tubes, filters and valves.
3-Open the filling valves and run it for app. 2 minutes at the min. pressure (the pressure which the priority valve is set at)
4-Open the drain valves and release the pressure inside the compressor.
5-After the unit is completely depressurised stop the compressor. Close the filling valves and drain valves.
6-Take out the refillable cartridge inside the purifier housing.
7-Remove the intake filter and disconnect all other connections on the valve heads.

8-Restart the compressor as soon as it cools down. Spray some compressor oil to the valve intakes and run the compressor for 2-3 minutes in this position.
9-Stop the unit before it gets too warm.
10-Connect the lines to the valve heads which are previously disconnected.
11-Close all the valves and put a cap onto the intake port against the dust and fumes may enter.
12-Cover the unit with a plastic cover as there will not be any condensation under it. Check the status of the unit periodically if you can and clean it if it's necessary.
13-The compressor should be stored in a dry, safe and sheltered indoor place.

NOTE: IF THE COMPRESSOR WILL NOT BE WORKING BUT STORED FOR A LONG TIME AND YOU CAN NOT DO PRECAUTIONS MENTIONED ABOVE, YOU NEED TO OPERATE THE COMPRESSOR AT LEAST TWICE A MONTH FOR 1 HOUR TO LUBRICATE INNER PARTS. IN FAILURE TO DO SO, THE OXIDIZATION MAY ARISE ON THE INNER PARTS AND CAUSE TROUBLE FOR THE OPERATOR AND COMPRESSOR DURING NEXT START-UP.

NOTE: IF THE COMPRESSOR WILL NOT BE WORKING BUT STORED FOR A LONG TIME; PURIFIER CARTRIDGE WHICH IS TAKEN OUT SHOULD BE COMPLETELY EMPTIED, INNER SURFACE SHOULD BE CLEANED AND DRIED BY BLOWING AIR. IN FAILURE TO DO SO, MAY CAUSE THE PURIFIER CARTRIDGE GET PARTIALLY CONSUMED AND EVEN WASTED.

If the compressor will be started-up after a long time of storage, it is suggested to do the following steps before start to filling bottles.

1- Clean the compressor with a clean cloth.
2- Install a new intake filter.
3- Install the empty purifier cartridge.
4- Open the intakes which have been closed while stored against dust, fume, etc. may enter the compressor.
5- Check if there are any leakages and sweating on the gaskets or connections.
6- Check if there are any leakages on the connections, fittings and safety valves.
7- Load new oil and check the oil level.
8- Run the compressor for a while till it gets warm while the filling valves, drain valves are open and the purifier cartrdige is empty. Do not fill any cylinders at this time. Make sure that there is no leakage.
9- Remove the purifier cartridge to fill it with new chemicals and reinstall it inside the housing.
10- You can run the compressor after completing all the steps mentionned above.

NOTE: IF THE COMPRESSOR HAS BEEN STORED WITH THE OLD OIL INSIDE, FIRST RUN THE COMPRESSOR FOR A WHILE AND STOP IT AFTER HEATING THE OIL. DISCHARGE THE OLD OIL AND LOAD NEW OIL.

PART 1

1-12 OPERATION

⚠ 1.12.1 INITIAL START-UP PROCEDURE

Follow up the following procedures when making the initial start-up of the compressor:

1. Make sure that you have read this manual carefully, and understand it. If you have any questions, contact ALKIN.
2. Make sure that all the preparations described in the installation section of this manual have been made.
3. Check the oil level in the crankcase.
4. Check the pressure switch and make sure that the pressure adjustments are set at the proper start-stop pressures.
5. Rotate the compressor flywheel several times by hand to see that it is free and working properly.
6. Keep all objects such as tools, rugs, etc. away from the compressor.
7. Check the direction of rotation. Rotation must be in the direction of the arrow marked on the crankcase and flywheel.
8. Check the Purifier if the cartridge is installed or not.
9. Press the start button to start the machine.

10. Check the pipeline against any leakage after you stop the compressor and wait till it cools down.
11. Check the interstage pressures from the pressure gauges on the control panel and be sure the pressure values are comply with the given values on the Technical Data Table. If there is a big pressure deviation, it means that there is a problem.
12. Ensure that the compressor stops when it reaches the working pressure already set. You can see the working pressure on 4th stage pressure gauge placed on the instrument panel, while the filling valves are closed.
13. Stop the compressor and wait till it cools down.
14. Replace the oil after the first 200 hours of operation. Stop the compressor and disharge the oil without waiting it cools down. Reload the compressor with the recommended oil.
15. Fill in the commissioning report and technical data forms. Return a copy to the manufacturer for tracking record.

NOTE: During the compressor start-up, it takes current 3 times greater than the nominal value. It is necessary for star-delta duration. After starting or stopping the compressor, wait for 3-4 minutes to stop or restart the unit. Otherwise, consecutively start-stop situation will cause heating the contactors, so contactor will block itself.

1.12.2 OIL RECOMMENDATION

The oil level should be checked before each start up. Top up to the overfill point when required.5 liters of oil should be loaded during each replacement.

⚠ **Use the following oils for all W4 Series Compressors :**

OIL TRADEMARK	CODE	TYPE	QUANTITY
ANDEROL	555	SYNTHETIC	5 LT
ANDEROL	750	SYNTHETIC	5 LT

- Do not use another type of oil without prior written approval of the compressor manufacturer.
- Do not mix different brand and type of oils.
- If you will change the oil you use with another approved brand of oil, load the new oil after you make sure that you drain the old oil completely in the crankcase.
- Refill the oil every 6 months unless you reach the replacement time of the oil stated in the maintenance table.
- Initial oil replacement must be performed at 200 hours. After the initial replacement oil should be replaced every 1000 hours of operation.

Extremely Cold Ambient Temperatures: Operating conditions out of the stated conditions must be reported to the compressor manufacturer to make the necessary changes to adopt the compressor to the current conditions. For instance if the compressor needs to work in an extremely cold ambient temperature below freezing temperatures a crankcase heater is attached to the crankcase of the compressor to prevent the negative effect of the cold ambient temparatures.

Motor Lubrication: Electric motors on ALKIN W4 Series compressors are supplied with greased and sealed bearings. They do not no need further maintenance. See the users manual of electric motors or engines before operating your compressor and follow the instructions while using your compressor.

1.12.3-ADJUSTMENTS

Pressure Switchgauge Adjustment
Screw off the plug on the center of pressure switchgauge. You can set the stop pressure by turning the red arm and set the restart pressure by turning the green arm. To turn the arms you can use the key supplied with the compressor. Do not leave the key on the pressure switchgauge and keep it in a safe place that only

authorized people can reach. Pressure Switchgauge is preset in the factory. Do not change the factory settings unless necessarily and without written approval of ALKIN.

CAUTION! If Pressure Switchgauge Adjustments will be changed, safety valve adjustments must be re-adjusted according to the pressure switchgauge adjustments.

Sequential Drain Timers

These are the drain timers on which the draining times and duration adjustments are made for automatic drain function. On this timers you will find two dials to make the time adjustments.

Upwards dial controls the duration of the automatic drain which the drain valve remains open (drains the condensate) It is adjustable between 0 to 10 seconds. The dial does not have figures showing the times on it; it needs to be proportionally adjusted. The full scale shows 10 seconds while half of the scale indicates 5 seconds. The downwards dial is used to adjust the time period of the automatic drain during which the drain valve will remain closed. Draining time periods and duration are adjusted as 7 seconds for every 10 minutes. Factory settings should not be changed for trouble free operation.

WARNING

•Do not adjust the Safety Valves and do not alter their original settings. Only authorised service technicians are authorised to make such adjustments. If required, replace and return the old one for reconditioning to the factory or to the nearest dealer to you.
•Do not remove the leaking safety valves and do not replace it with a plug. THIS MAY BE EXTREMELY DANGEROUS. If a safety valve leaks, replace itwith a new one.

1.12.4-COMMISSIONING REPORT – INITIAL START UP

Fill in the following reports during initial start-up and send a copy to the manufacturer. Unless to do so; may cause the compressor to be out of the WARRANTY.

COMMISSIONING REPORT – INITIAL START UP	
CUSTOMER DETAILS	
Name of the Company	
Adress	
Contact Name and Position	
Phone and Fax Numbers	
Name of the Plant where Equipment Installed(If different than the above)	
Address	
Contact Name and Position	
Phone and Fax Numbers	
Compressor Model	
Serial Number	
Date of Purchase	
Date of Commissioning	

PRELIMINARY CHECKS	CONFORMITY	REMARKS	SIGNATURE
Compressor Received properly			
Location Suitable / Ventilated			
Piping in the Compressor Intake			
Oil Type			
Oil Level in the Crankcase			
Intake Filter Dry & Clean			
All Electrical Connections Checked			
Direction of Rotation			
Start-up Ccurrent and Voltage			
Pressures Read on Pressure Gauges			
Pressure Switch Upper Pressure			
Motor Current and Voltage under Full Load			
Max. Current, Voltage and Frequency Compliance with the Values Specified on the Compressor Labels			
Vibration			
Excessive Knocking Noise			
Check Valve No Leaks Back when the Compressor Stops			
Safety Valves No Leak			
Ambient Temperature			
Oil Temperature after 30 Minutes of Operation			
Discharge Air Temperature after 30 Minutes Of Operation			
Operating Time		**Min. Running** **Min. Stops**	
Other Remarks			

ATENDANTS TO THE COMMISIONING

NAME AND SURNAME	POSITION	SIGNATURE

Pressure Readings

1st Stage	2nd Stage	3rd Stage	4th Stage

COMMISSIONING REPORT – INITIAL START UP

CUSTOMER DETAILS

Name of the Company	
Adress	
Contact Name and Position	
Phone and Fax Numbers	
Name of the Plant where Equipment Installed(If different than the above)	
Address	
Contact Name and Position	
Phone and Fax Numbers	
Compressor Model	
Serial Number	
Date of Purchase	
Date of Commissioning	

PRELIMINARY CHECKS	CONFORMITY	REMARKS	SIGNATURE
Compressor Received properly			
Location Suitable / Ventilated			
Piping in the Compressor Intake			
Oil Type			
Oil Level in the Crankcase			
Intake Filter Dry & Clean			
All Electrical Connections Checked			
Direction of Rotation			
Start-up Ccurrent and Voltage			
Pressures Read on Pressure Gauges			
Pressure Switch Upper Pressure			
Motor Current and Voltage under Full Load			
Max. Current, Voltage and Frequency Compliance with the Values Specified on the Compressor Labels			
Vibration			
Excessive Knocking Noise			
Check Valve No Leaks Back when the Compressor Stops			
Safety Valves No Leak			
Ambient Temperature			
Oil Temperature after 30 Minutes of Operation			
Discharge Air Temperature after 30 Minutes Of Operation			
Operating Time		**Min. Running** **Min. Stops**	
Other Remarks			

ATENDANTS TO THE COMMISIONING

NAME AND SURNAME	POSITION	SIGNATURE

Pressure Readings

1st Stage	2nd Stage	3rd Stage	4th Stage

1.12.5 BOTTLE FILLING:

Start the compressor. Close the Purifier Manual Drain Valve if it's open. Connect and fix the Filling Hose to the bottle as the filling valve is in closed position. Wait till the final pressure reads the working presure on the final stage pressure gauge on the control panel. Open the filling valve on the filling hose and then the bottle valve when the pressure reaches 150-200 Bar on the larger pressure gauge onthe filling panel. Close the bottle valve first and then the filling valve when the bottle pressure reaches the desired pressure (max. working pressure). Air inside the filling hose is automatically released by the filling valve when the filling valve is closed. Disconnect the filling hose connected to the bottle when you finish the filling process. Compressor will automatically stop since it's automatic start/stop controlled. It would drain automatically since the unit has automatic drain control.

FIGURE 12

PART 1

1-13 MAINTENANCE

1.13.1 GENERAL

As you proceed through this section, it will be easy to see how simple to maintain the compressor. By following these recommendations, you will get long and trouble free operation from your air compressor.The following are general guidelines for periodical maintenance. Use the Maintenance Table for maintenance and record keeping.

WARNING

Before attempting any maintenance or service work, isolate the compressor by switching off the power and blowing down the pressure inside all equipments like the filters, purifiers, pipings, etc. If a bank system exits, isolate by closing the appropriate valves.

CAUTION

Ambient temperature where the compressor is located must be between + 5◦ C ile + 45◦ C.

1.13.2 - MAINTENANCE TABLE

DOCUMENT NO:W4BT-01
REVİSION NO:00
DATE:09.01.2009

W4 SERIES COMPRESSORS MAINTENANCE-PARTS CONTROL TABLE

CHECK	ITEM NO.	DESCRIPTION	INSTRUCTION NO.
DAILY	1	OIL LEVEL	
	2	LEAKS	
	3	PRESSURE AND PRESSURE GAUGES	
	4	CHECK THE AUTOMATIC DRAIN VALVES IF THEY WORK PROPERLY OR NOT. IF THERE IS A PROBLEM WITH THE DRAIN VALVES, SERVICE WITH ITS REPAIR KIT.	
WEEKLY	1	INTAKE FILTER	
	2	TIGHTNESS OF FASTENING PARTS	
	3	CLEANING OF CYLINDER FINS, INTERCOOLERS AND AFTER COOLER, FLYWHEEL	
	4	ELECTRICAL CURRENT	
	5	CABLE CONNECTION AND WIRING	
	6	PUSH THE TEST BUTTON TO CHECK IF INDICATOR LEDS ARE OPERATING PROPERLY. REPLACE THE FAULTY LEDS.	
EVERY 500 HOURS	1	SAFETY VALVES NOTE: CHECK THE SAFETY VALVES EVERY 500 OPERATING HOURS AND REPLACE THEM IF NEEDED.	
EVERY 1000 HOURS	1	CHECK VALVE NOTE: CHECK THE CHECK VALVE EVERY 1000 OPERATING HOURS AND REPLACE OR MAINTAIN IT IF NEEDED.	
	2	PRIORITY VALVE NOTE: CHECK THE PRIORITY VALVE EVERY 1000 OPERATING HOURS AND REPLACE OR MAINTAIN IT IF NEEDED.	
	3	V-BELTS NOTE: CHECK THE V-BELTS EVERY 1000 OPERATING HOURS AND REPLACE THEM IF NEEDED.	
	4	OIL SEAL NOTE: CHECK THE OIL SEAL EVERY 1000 OPERATING HOURS AND REPLACE THEM IF NEEDED.	
ANNUALLY	1	PURIFIER NOTE: HAVE THE PURIFIER ON YOUR UNIT PRESSURE TESTED TO THE AUTHORIZED BODY ACCORDING TO THE PRESSURIZED EQUIPMENT TEST REGULATIONS.	

W4 SERIES COMPRESSORS MAINTENANCE -PARTS REPLACEMENT TABLE

REPLACE	ITEM NO.	DESCRIPTION	QTY.	INSTRUCTION NO.
EVERY 80 HOURS	1	PURIFIER CARTRIDGE REFILLING KIT NOTE: REFILLING TIME OF THE CARTRIDGE MAY VARY ACCORDING TO THE AMBIENT TEMPERATURE AND HUMIDITY.	1 PIECE	
EVERY 200 HOURS	1	FILTER ELEMENT	1 PIECE	
EVERY 500 HOURS	1	INTAKE FILTER ELEMENT	1 PIECE	
	2	SILENCER FILTER ELEMENT	1 PIECE	
	3	AUTOMATIC DRAIN VALVES NOTE: MAINTAINE OR REPLACE EVERY 500 OPERATING HOURS.	1 SET	
EVERY 1000 HOURS	1	OIL NOTE:REPLACE THE OIL WITHIN 200 OPERATING HOURS AFTER THE FIRST START-UP. NEXT REPLACEMENTS WILL BE AT EVERY 1000 OPERATING HOURS. IMPORTANT: IF REPLACEMENT TIME FOR THE OIL CAN NOT BE REACHED WITHIN 6 MONTHS	5 LITERS	

		AFTER THE LAST CHANGE RELOAD THE OIL AFTER CLEANING INSIDE THE CRANKCASE.		
EVERY 2000 HOURS	1	PISTON RINGS	1 SET	
	2	COMPRESSOR VALVES	1 SET	
	3	GASKETS	1 SET	
	4	O-RINGS	1 SET	
	5	VIBRATION MOUNTS	1 SET	
	6	SAFETY VALVES	1 SET	
	7	COPPER WASHER KIT	1 SET	
ANNUALLY	1	V-BELTS NOTE: REPLACE THE V-BELTS ANNUALLY.	1 SET	
	2	FILLING HOSES NOTE: REPLACE THE FILLING HOSES ANNUALLY.	1 SET	
DRAIN THE CONDENSATE COLLECTED IN THE PURIFIER BY OPENING THE MANUAL DRAIN VALVE ON THE FRONT PANEL AFTER FILLING PROCEDURES .				
COMPRESSOR PARTS WHICH ARE MADE OF CASTING SHOULD BE MEASURED AND INSPECTED WITH THE SUITABLE MEASUREMENT TOOLS DURING GENERAL SERVICE OR MAINTENANCE. THE PARTS WHICH MEASURED OUT OF THE TOLERANCE RATES STATED IN THE PARTS BOOK NEED TO BE REPLACED WITH THE NEW PARTS.				
IMPORTANT: PLEASE BE ADVISED THAT COMPRESSORS WHICH ARE NOT MAINTAINED ACCORDING TO ALKIN MAINTENANCE TABLES ABOVE WOULD BE OUT OF WARRANTY.				

1.13.3-TORQUE VALUES:

The following table indicates the torque values to which a torque wrench should be set for tightening the various size attaching bolts & nuts. Use these values to set a torque wrench to tighten these fastners at intervals indicated in the **MAINTENANCE TABLE.**

TORQUE VALUES TABLE

UNC (National Coarse Threads)				
Size	Ft. Lbs.		Kilogram meter	
	Min.	Max.	Min.	Max.
¼″-20	6	7	83	97
5/16″-18	12	14	1.66	1.93
3/8″-16	21	24	2.90	3.32
½″-13	52	59	7.20	8.15
5/8″-11	105	120	14.50	16.60
¾″-10	107	190	23.50	26.20

UNF (National Fine Threads)				
Size	Ft. Lbs.		Kilogram meter	
	Min.	Max.	Min.	Max.
¼″-28	5	6	69	83
5/16″-24	9	10	1.24	1.38
3/8″-24	14	16	1.93	2.21
½″-20	40	42	5.52	5.80
5/8″-18	60	70	8.30	9.55
¾″-16	100	120	13.80	16.60

PART 1

1-14 TROUBLE SHOOTING

1. COMPRESSOR WILL NOT OPERATE	
1. Motor starter overload tripped.	Re-start and check if trips again. If it does, check if the centrifugal unloader venting air at shutdown, resulting in staying under load.
2. Fan motor overload tripped.	Push on the"Reset" button. Restart and inspect the problem.
3. Low oil level inside the crankcase.	Check the oil level and add oil if required, push the "Reset" button and re-start it.
4. Pressure switch not making contact.	Check all the terminals and wires. If pressure switch is defective, replace it.
2. EXCESSIVE NOISE DURING OPERATION	
1. Loose sheave, flywheel, belt, belt-guard, intercooler, bolts or accessories.	Detect and tighten.
2. Faulty vibration mounts	Check if the mounts in good condition; if damaged, replace. (damaged vibration mounts can cause the baseplate to hit the base of canopy.)
3. Lack of oil in the crankcase.	a. Check for possible damage to bearings. b. Fill oil and check if the noise persists.
4. Piston hitting the valve plate.	Remove the compressor cylinder head; replace the gasket with the brandnew gasket and reassemble.
5. Deflected crankshaft or crankshaft bearing failure.	Replace the crankshaft.
6. Excessive dirt or carbon on piston(s).	Remove the compressor air heads; clean pistons and valve(s) , or replace if worn; reassemble.
3. COMPRESSOR KNOCKS	
1. Crankshaft bearing failure.	Replace bearings or crankshaft assembly.
2. Connecting rod journal bearings worn.	Replace the connecting rods; if worn, replace the crankshaft bushing center as well.
3. Wrist pins and journals are worn.	Replace complete pin and rod assembly.
4. MILKY OIL IN THE CRANKCASE	
1. High moisture and dirt content in the ambient air.	a. Pipe air intake from less humid source. b. Change oil more frequently.
5. EXCESSIVE OIL CONSUMPTION	
1. Restricted air intake.	Replace intake filter element.
2. Oil leaks.	Tighten bolts and fittings; replace gaskets.
3. Worn piston rings	Replace piston rings.
4. Low oil viscosity	Drain oil; refill with oil of proper viscosity.
5. Piston rings misassembled.	If piston rings are upside down, install in proper position.
6. Compressor tilted too much.	Level compressor.
7.Scored or worn cylinder(s).	Replace cylinders.
6. OIL IN DISCHARGE AIR	
1. Restricted air intake	Replace intake filter element, check for other restrictions at the inlet.
2. Worn piston rings	Replace piston rings.
3. Excessive oil in the crankcase.	Drain to the overflow level.

4. Low oil viscosity	Drain oil; refill with oil of proper viscosity.
5. Piston rings misassembled.	If piston rings are upside down, install in proper position.
6. Consumed purifier cartridge filling kit	Refill the Purifier cartridge with the cartridge refilling kit.
7. Filter could be restricted.	Replace the filter.

7. COMPRESSOR VIBRATES	
1. Mounting bolts are loose.	Tighten the mounting bolts.
2. Compressor not properly mounted.	Level the compressor so that all feet touch the floor.
3. Motor belt and the sheave misaligned.	Align.
8. AIR BLOWING OUT OF INLET	
1. Broken 1st stage inlet valve.	Replace its spring and disc.
9. INSUFFICIENT AIR AT THE POINT OF USE	
1. Leaks or restrictions.	Check for leaks and restrictions in the piping and hoses.
2. Restricted air intake	Replace the intake filter element.
3. Slipping belts.	Tighten the belts.
4. Excessive air consumption	a. Limit the air consumption to the capacity of the compressor. b. Increase your air capacity with an additional compressor unit.
10. PRESSURE VESSELS DO NOT HOLD THE PRESSURE WHEN THE COMPRESSOR IS UNLOADED.	
1. Check valve leaks.	Relieve the pressure vessels and replace the check valve.
2. Excessive leaks in the plant piping.	Check the pipings, repair the leaks.
CAUTION: DO NOT SERVICE TANK, VALVES, PIPING, etc. WHILE COMPRESSED AIR EXISTS IN THE SYSTEM. DRAIN THE AIR INSIDE BEFORE ATTEMPTING ANY REPAIRS.	
11. EXCESSIVE BELT WEAR	
1. Sheaves misaligned.	Realign the motor sheave and the flywheel.
2. Belts too tight.	Adjust tension – the compressor has automatic tightening slides; consult factory.
3. Belts too loose	Adjust tension – the compressor has automatic tightening slides; consult factory.
4. Sheave or crankshaft wobble.	Check for worn or bent crankshaft, keyway or sheave bore.
12. EXCESSIVE DISCHARGE AIR TEMPERATURE	
1. Dirty valves / carbon on valves.	Remove valves; clean or replace.
2. Dirty intercoolers and/or cooling surfaces	Clean cooling surfaces of the cylinders, intercoolers and the aftercooler.
3. Poor ventilation and air circulation.	Relocate the compressor, improve ventilation.
4. Blown head gasket	Replace the head gasket.
5. Restricted air intake	Replace the intake filter element.
6. Worn valves	Repair or replace the valves.
7. Compressor rotating in the wrong direction	Correct the direction of rotation.
8. Fans rotating in the wrong direction.	Correct the direction of rotation. Check if it's operating or not.
13. AIR LEAKING FROM THE INTERSTAGE SAFETY VALVE	
1. Safety valve faulty.	Replace the safety valve.
2. Inlet valve of the next stage leaks	Remove the valves; clean or replace.
3. Inlet valve of the next stage is broken.	Remove the valves; replace.
14. CYLINDER PRESSURE BUILDS UP SLOWLY.	
1. Dirty air filter	Replace the intake filter element.
2. Blown cylinder gasket or o-rings.	Install a new gasket.
3. Worn or broken valves.	Replace the valves.

4. Air leaks in the system	Search for leaks; fix the problem.
5. Loose belts	Adjust tension – the compressor has automatic tightening slides; consult factory.
6. Low Compressor Speed	Check the compressor speed.
15. RECEIVER PRESSURE BUILDS UP TOO FAST	
1. Water in the system	Drain the system more often.
2. High compressor speed	Check the compressor speed.
16. RESET MECHANISM CUTS-OUT REPEATEDLY.	
1. Motor overload.	Shut down the compressor and check for possible reasons.
2. Faulty pressure switch.	Readjust or replace.
3. High ambient temparature	Improve ventilation.
4. Lack of Oil.	Add oil. Check the oil level switch.
17. FUSES BLOWN REPEATEDLY.	
1. Wrong fuse rating	Replace the fuses with proper rating.
2. Loose wiring, terminals or connections.	Tighten all electrical connections.
18. COMPRESSOR DOESN'T UNLOAD WHEN STOPPED	
1. Automatic drain valves blocked	Check, disassemble and clean the drain valves; install new o-ring and seat if necessary.
2. Solenoid Valve faulty.	Check the Solenoid Valve.
19. AUTOMATIC DRAIN VALVES DO NOT DRAIN	
1. Automatic drain valves blocked	Check, disassemble and clean the drain valves; replace the spring and o-rings if necessary.
2. Solenoid Valve faulty	Replace the Solenoid Valve.
20. AUTOMATIC DRAIN VALVE(S) REMAIN(S) OPEN ALL THE TIME	
1. Low 2nd stage control air pressure.	Check the interstage pressures.
2. Solenoid Valve faulty	Replace the solenoid valve.
3. Blocked drain valve(s)	Clean the drain valve(s).
21. COMPRESSOR WILL NOT COME UP TO NOMINAL OPERATING SPEED	
1. Low voltage	Check the line voltage.
2. Motor and control panel connectors loosen.	Check it, tighten if needed.
3. Poor power regulation (unbalanced phases)	Notify the power company.
22. UNUSUAL PISTON, RING OR CYLINDER WEAR	
1. Improper oil	Replace with the proper oil.
2. Low oil level	Check the oil level and fix the problem, load oil.
3. Extremely dirty ambient conditions.	Pipe the intake filter to a cleaner location if possible; alternatively use a heavy duty two stage filter.(consult the factory).

PART 2

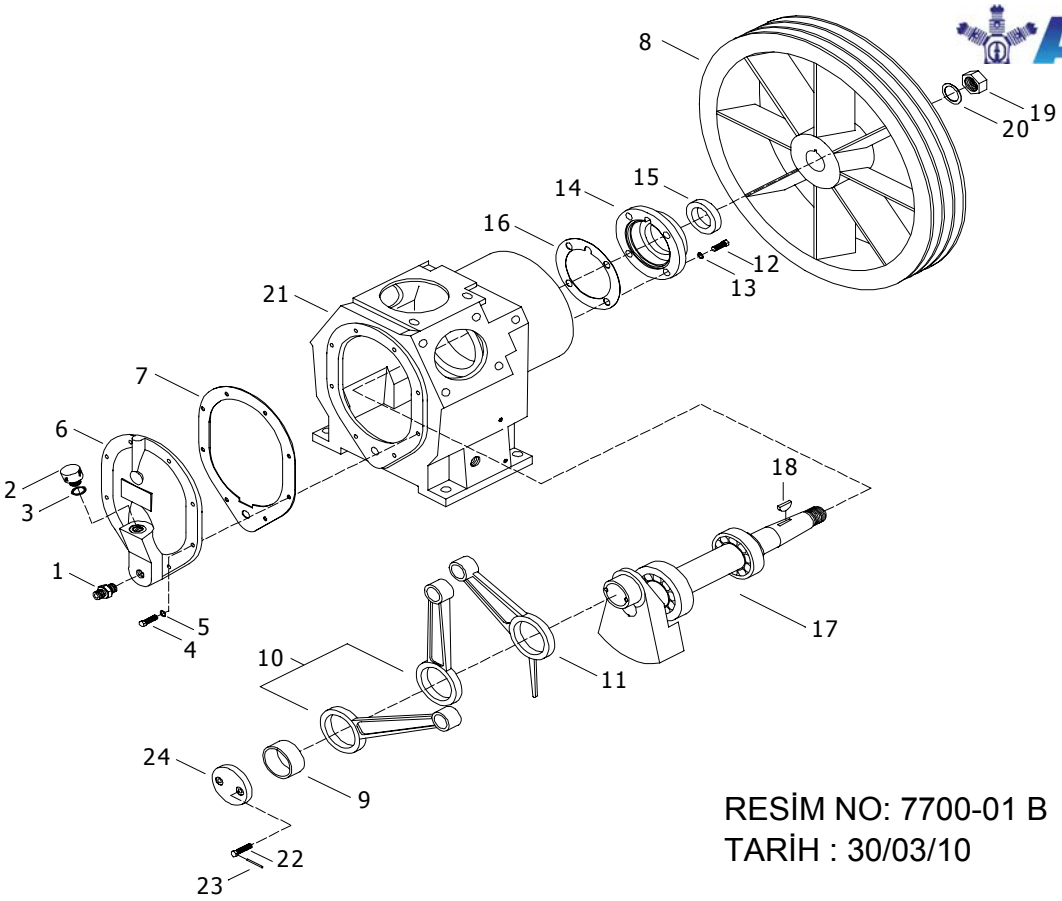
SPECIAL INSTRUCTIONS

PARTS LIST

W4 SERIES
4 STAGES BREATHING AIR COMPRESSORS
240-350 BARS

ALKIN Compressors Menderes/Izmir/Turkey
Tel :(0090) 232 782 22 90 Fax : (0090) 232 782 22 89

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR



RESİM NO: 7700-01 B
TARİH : 30/03/10

FIGURE 1 - Compressor Frame Assembly

Ref Nr.	Part Nr.	Description	Qty
1.1	7078-29 A	Nipple-1/2"	1
1.2	7960 C	Plug,Oil Filler-Complette	1
1.3	6436-08 A	O-ring; 22,2x3,5 NBR 70 SH	1
1.4	7096-15 A	Screw Crankcase Cover-3/8"x1"	8
1.5	7091-02 A	Gasket-Copper Washer-3/8"	8
1.6	0003-02 B	Cover-Crankcase	1
1.7	0100 B	Gasket Crankcase Cover	1
1.8	6977-01 C	Wheel,V Belt	1
1.9	0019 C	Bushing Center	1
1.10	0020-01 B	• Connecting Rod	2
1.11	0023-02 A	• Connecting Rod	1
1.12	7096-04 A	Screw Oil Retainer Cover-3/8"x1 1/4"	4
1.13	7091-02 A	Gasket-Copper Washer-3/8"	4
1.14	0011 B	Cover-Oil Retainer	1
1.15	7101-01 A	Retainer Oil	1
1.16	0012 C	Gasket Oil Retainer Cover	1
1.17	0005-08 A	Crankshaft-Complete	1
1.18	7102-01 A	Key-Woodruff	1
1.19	0093 C	Nut,V-Belt Wheel	1
1.20	7094-05 A	Lock Washer	1
1.21	0002-07 C	Crankcase	1
1.22	7096-03 A	Cap screw-3/8"x1 1/4"	2
1.23	7100-01 A	Lockwire	1
1.24	7911 D	Flange	1

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

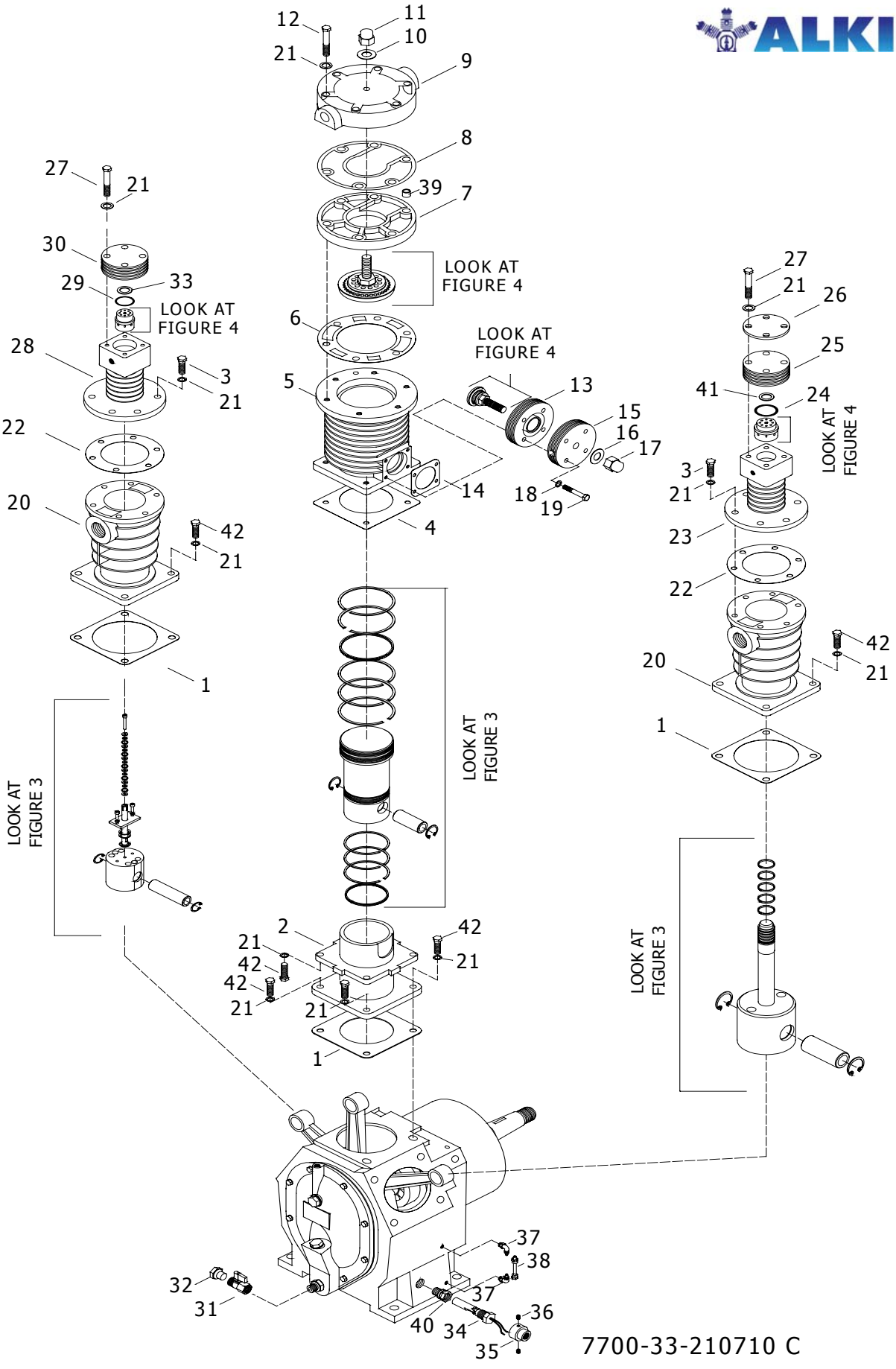


FIGURE 2 - Model W4 Bare Compressor

Ref Nr.	Part Nr.	Description		Qty
2.1	0028 C	Gasket Flange		3
2.2	6480 D	Cylinder-2nd Stage		1
2.3	7096-06 B	Capscrew-Hex.;1/2x1 1/4 (ASA-B 18.2.1 UNC 8.8)		12
2.4	6588 B	Gasket Flange		1
2.5	6479 D	Cylinder-1st Stage		1
2.6	0041 C	Gasket-1st stg		1
2.7	7664 E	Bottom Air Head-1st stg		1
2.8	0039 C	Gasket-1st stg		1
2.9	7028 D	Air Head		1
2.10	7104-01 B	Spring Washer-1st stg;3/4		1
2.11	0030 C	Acorn Nut-1st stg;3/4		1
2.12	7096-12 B	Hex screw-1/2x3 1/2" (ASA-B 18.2.1 UNC 8.8)		6
2.13	7119 G	Cover-Bottom-2nd stg		1
2.14	7450 A	Gasket		1
2.15	7120 F	Top Cover-2nd Stage Valve		1
2.16	7104-02 B	Spring Washer-2nd stg;5/8		1
2.17	0043 C	Acorn Nut-2nd stg;5/8		1
2.18	7091-02 A	Gasket-Copper Washer;3/8		4
2.19	7096-13 A	Capscrew-Hex.;3/8x2 1/2 (ASA-B 18.2.1 UNC 8.8)		4
2.20	0027 B	Crosshead Cylinder-3rd stg		2
2.21	7091-01 A	Copper Washer-Cylinder Screw;1/2		42
2.22	0054 C	Gasket-Cylinder to Crosshead		2
2.23	6481 C	Cylinder-3rd stg		1
2.24	6486-04 B	O ring-3rd stg valve/top cover		1
2.25	7065 D	Air Head-3rd stg		1
2.26	7156 C	Plate		1
2.27	7096-22 B	Capscrew-Hex.;1/2x2 1/2"		8
2.28	6482 C	Cylinder-4th stg		1
2.29	6485-04 B	O ring-4th stg valve/top cover		1
2.30	7066-02 C	Air Head-4th stg (415 bar)		1
2.31	7879-02 A	• Oil drain valve		1
2.32	80536-07	• Plug-oil drain	3/8"	1
2.33	6800-04 A	Washer,Copper		1
2.34	6182 B	Oil level switch		1
2.35	6434 E	Guard oil level switch		1
2.36	7867-46 A	Set screw;M6x10	DIN 916 / ISO 4029	2
2.37	7187-08 A	Elbow-1/4xØ6 for pl tube		2
2.38	80533-02	Tube-Ø6 pl		0.20 cm
2.39	0089 A	Cylinder air head Dowel (L.P. H.P)		1
2.40	80088-03 A	Plastic rakor	Ø13.5	1
2.41	6800-03 A	Washer,Copper		1
2.42	7096-08 B	Hex screw ;1/2x1 1/2" (ASA-B 18.2.1 UNC 8.8)		16

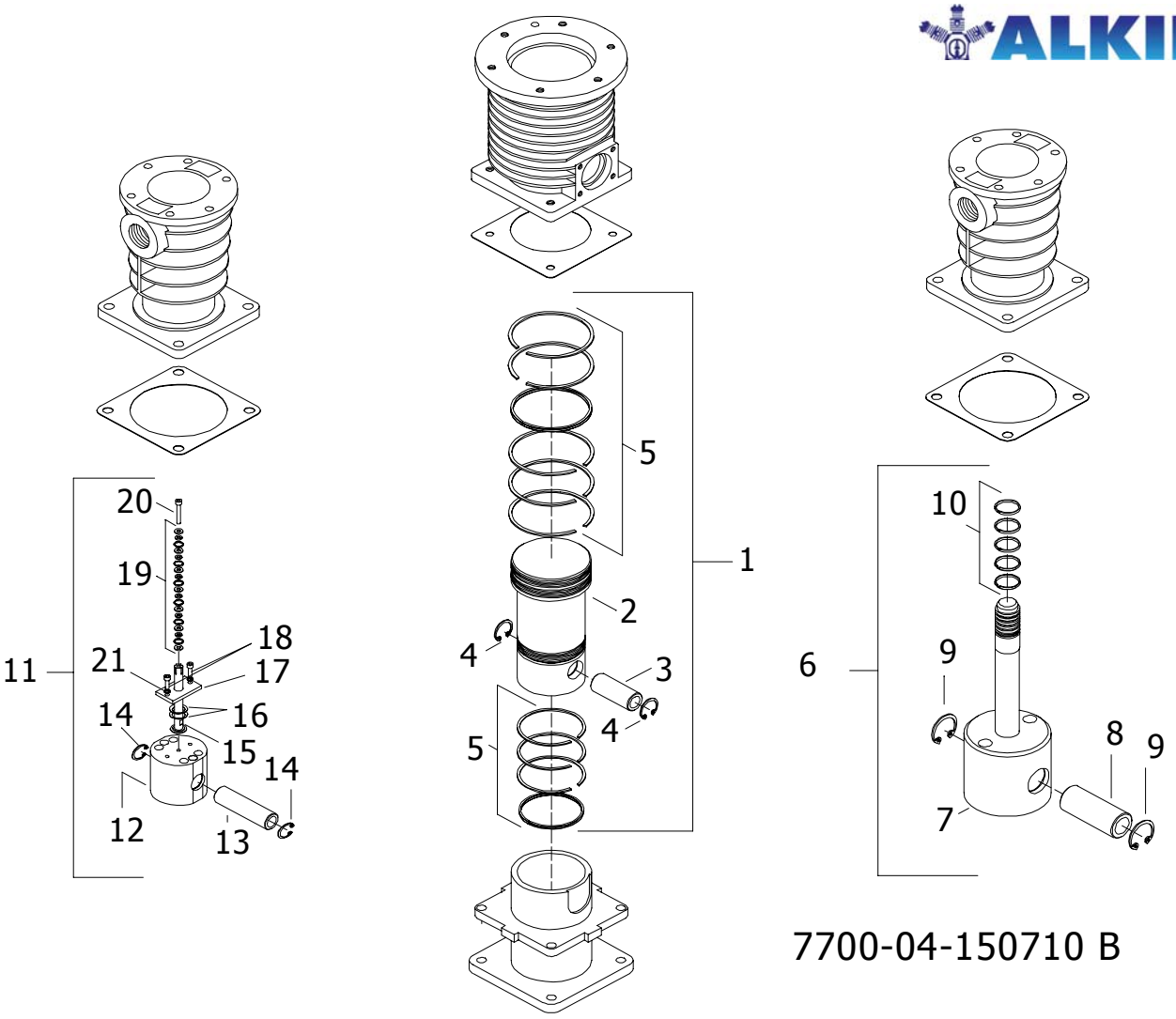


FIGURE 3 - Piston Assemblies

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

Ref Nr.	Part Nr.	Description	Qty
3.1	**6478-01 A**	**Piston&Rings Complete-1st&2nd stg**	**1**
3.2	6478 G	•Piston-1st&2nd stg	1
3.3	0018 B	•H.P. Pin Piston	1
3.4	7103-01 A	•Lockring	2
3.5	6770-01 B	•Ring Set	1
3.6	**6771 C**	**Piston&Rings Complete-3rd stg**	**1**
3.7	6477 D	•Piston-3rd stg	1
3.8	0018 B	•Pin-3rd stg Piston	1
3.9	7103-01 A	•Lockring-3rd stg Piston	2
3.10	6781-03 B	•Set-Piston Ring-3rd stg Piston	1
3.11	**6772 C**	**Floating Piston Ass'y-4th stg**	**1**
3.12	6476-01 C	•Guide,Piston-4th stg Piston	1
3.13	0018 B	•Pin-4th stg Piston	1
3.14	7103-01 A	•Lockring-4th stg Piston	2
3.15	6476-02 A	•Floating Piston-4th stg	1
3.16	6203-02 A	•Spring Washer	2
3.17	6476-03 C	•Piston Retainer-4th stge	1
3.18	7867-09 A	•Allen Screw;M6x20 sst	2
3.19	6772-01 A	•Ring Set-4th stg	1
3.20	7867-60 A	•Allen Screw-Socket Head;M6x30 SST	1
3.21	7091-28 A	Spring Washer - M6	2

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

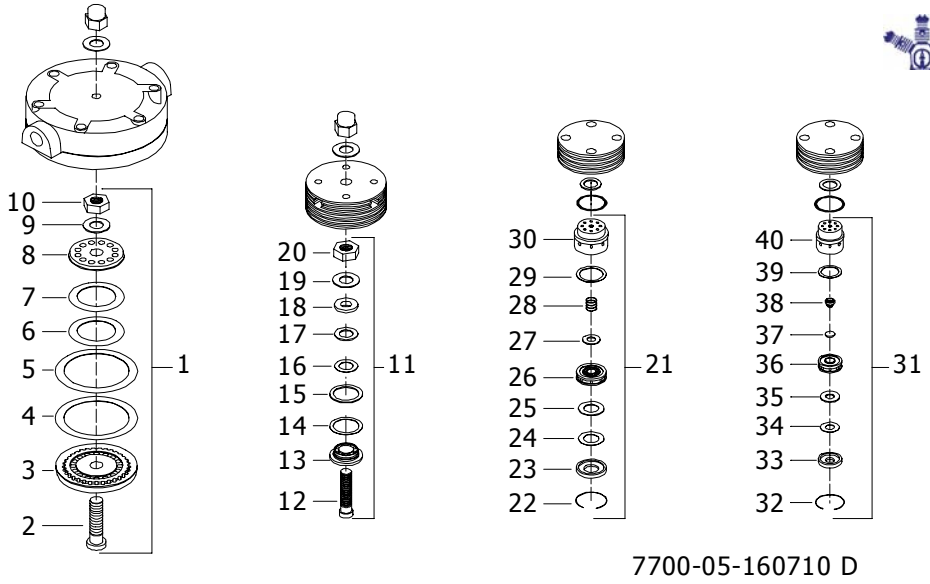


FIGURE 4 - All Stage Valve Assemblies

Pos.Nr	Part Nr.	Description	Qty
4.1	**1762-01 A**	**Valve Asembly-1st stage**	**1**
4.2	0031 C	•Bolt-Valve Ass'y-1st stg	1
4.3	0035 B	•Valve Stop Plate-1st stg	1
4.4	0036 A	•Spring-Inlet Valve-1st stg	1
4.5	0037 A	•Plate-Inlet Valve-1st stg	1
4.6	0033 A	•Plate-Disch Valve-1st stg	1
4.7	0032 A	•Spring-Disch Valve-1st stg	1
4.8	0034 B	•Seat Valve-1st stg	1
4.9	7104-01 B	•Spring Washer-1st stg	1
4.10	0097-00 A	•Lock Nut-1st stg 3/4"	1
4.11	**6604 A**	**Valve Ass'y-2nd stg**	**1**
4.12	6487-03 C	•Bolt Valve-2nd stg	1
4.13	6487-01 D	•Seat Valve-2nd stg	1
4.14	6201-04 A	•Spring-Inlet Valve-2nd stg	1
4.15	6201-03 A	•Plate-Inlet Valve-2nd stg	1
4.16	6201-01 A	•Plate-Disch Valve-2nd stg	1
4.17	6201-02 A	•Spring-Disch Valve-2nd stg	1
4.18	6487-02 A	•Disch Valve Stop-2nd stg	1
4.19	7104-02 B	•Spring Washer-2nd stg	1
4.20	0094-00 A	•Nut-2nd stg (5/8")	1
4.21	**6605 A**	**Valve Ass'y-3rd stg**	**1**
4.22	6800-05 A	•Ring Retainer-3rd stg	1
4.23	6486-03 A	•Plate Inlet Valve Stop-3rd stg	1
4.24	6202-02 A	•Spring-Inlet Valve-3rd stg	1
4.25	6202-01 A	•Plate-Inlet Valve-3rd stg	1
4.26	6486-02 B	•Seat Valve-3rd stg	1
4.27	6203-01 A	•Plate-Disch Valve-3rd stg	1
4.28	6645-01 A	•Spring-Disc Valve-3rd stg	1
4.29	6800-01 A	•Gasket-Aluminium-3rd stg	1
4.30	6486-01 A	•Gage Valve-3rd stg	1
4.31	**6606 A**	**Valve Ass'y-4th stg**	**1**
4.32	6800-06 A	•Ring Retainer-4th stg	1
4.33	6485-03 B	•Plate Inlet Valve Stop-4th stg	1
4.34	6202-04 A	•Spring-Inlet Valve-4th stg	1
4.35	6202-03 A	•Plate-Inlet Valve-4th stg	1
4.36	6485-02 C	•Seat Valve-4th stg	1
4.37	6203-03 A	•Plate-Disch Valve-4th stg	1
4.38	6645-02 B	•Spring-Disch Valve-4th stg	1
4.39	6800-02 A	•Gasket-Copper-4th stg	1
4.40	6485-01 F	•Gage Valve-4th stg	1

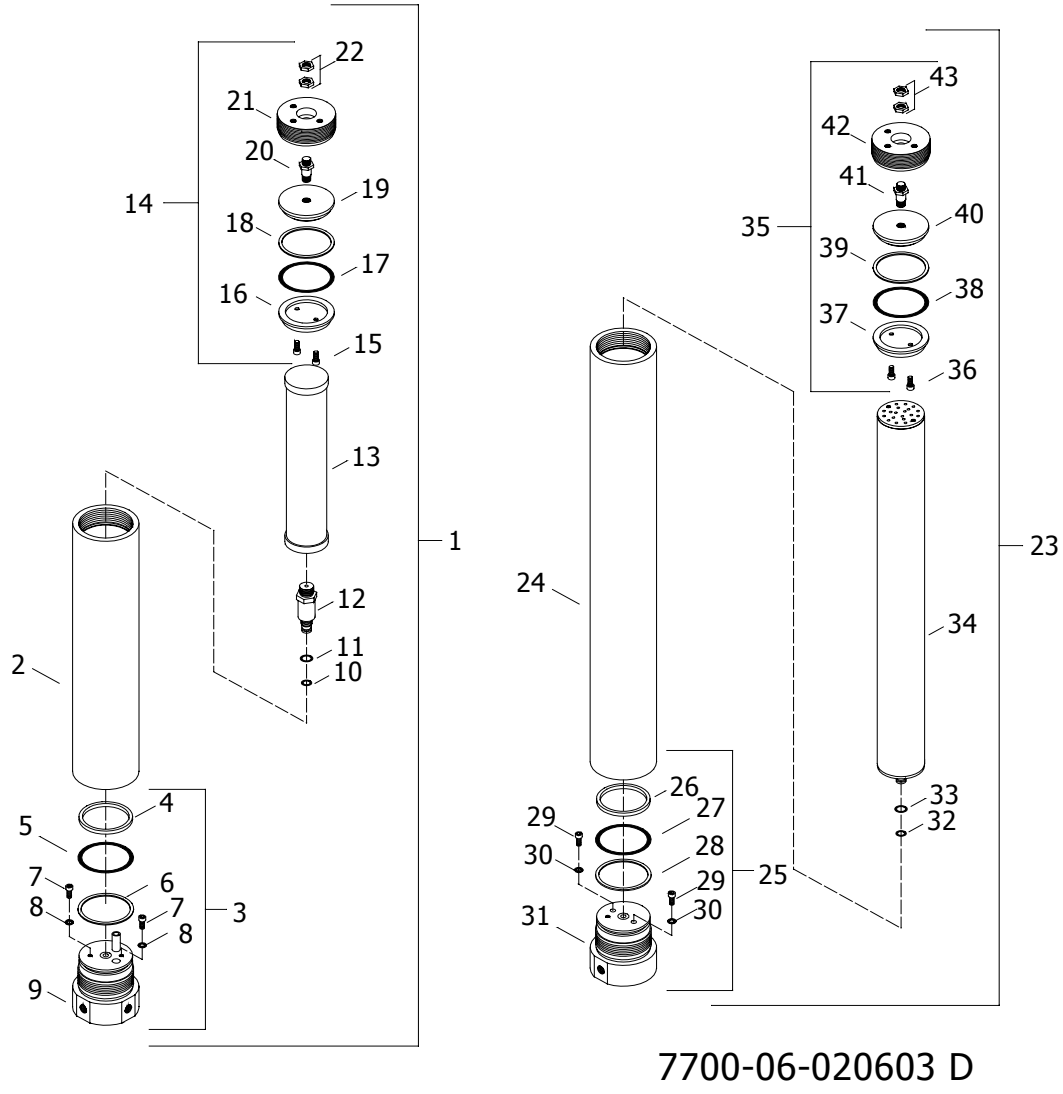


FIGURE 5 - Filter & Purifier Assembly

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

Pos.Nr	Part Nr.	Description	Qty
5.1	**-**	**Filter Ass'y**	**1**
5.1.1	**7168-39 D**	**Filter Ass'y (340 Bar)**	
5.1.2	**7168-45 B**	**Filter Ass'y (415 Bar)**	
5.2	-	•Body	1
5.2.1	7168-30 C	•Body-340 bar	
5.2.2	7168-37 B	•Body-415 bar	
5.3	-	•Bottom Cover Ass'y	1
5.3.1	7168-41 A	•Bottom Cover Ass'y (340 bar)	
5.3.2	7168-43 A	•Bottom Cover Ass'y (415 bar)	
5.4	7168-28 E	••Ring	1
5.5	7168-25 C	••O-Ring-72,4x5,33	1
5.6	7168-24 B	••Backing Ring	1
5.7	7867-67 A	••Hex. Screw-M6x10 SST	2
5.8	7091-17 A	••Washer-M6 SST	2
5.9	-	••Bottom Cover	1
5.9.1	7168-31 G	••Bottom Cover (340 bar)	
5.9.2	7168-38 E	••Bottom Cover (415 bar)	
5.10	7047-14 A	•O-Ring-10,3x2,62	1
5.11	7047-13 A	•O-Ring-12,7x2,62	1
5.12	6554-04 C	•Adapter	1
5.13	6554-05 B	•Filter Element	1
5.14	7168-40 A	•Plug Assy	1
5.15	7867-03 A	••Allen Screw-M6x10 SST	2
5.16	7168-23 B	••End Cap	1
5.17	7168-25 C	••O-Ring-72,4x5,33	1
5.18	7168-24 B	••Backing Ring	2
5.19	7168-22 B	••Sealing Cap	1
5.20	7168-33 D	••Pin	1
5.21	7168-32 D	••Plug	1
5.22	7168-34 C	••Nut	2
5.23	**-**	**Purifier Ass'y**	**1**
5.23.1	**7168-29 H**	**Purifier Ass'y (240 Bar)**	
5.23.2	**7168-46 C**	**Purifier Ass'y (340&415 Bar)**	
5.24	-	•Body	1
5.24.1	7168-19 E	•Body (240 Bar)	
5.24.2	7168-35 C	•Body (340&415 Bar)	
5.25	-	•Bottom Cover Ass'y	1
5.25.1	7168-42 A	•Bottom Cover Ass'y (240 Bar)	
5.25.2	7168-44 A	•Bottom Cover Ass'y (340&415 Bar)	
5.26	7168-28 E	••Ring	1
5.27	7168-25 C	••O-Ring-72,4x5,33	1
5.28	7168-24 B	••Backing Ring	1
5.29	7867-67 A	••Hex. Screw-M6x10 SST	2
5.30	7091-17 A	••Washer-M6 SST	2
5.31	-	••Bottom Cover	
5.31.1	7168-20 H	••Bottom Cover(240 Bar)	1
5.31.2	7168-36 E	••Bottom Cover (340&415 Bar)	1
5.32	7047-14 A	•O-Ring-10,3x2,6	1
5.33	7047-13 A	•O-Ring-12,7x2,6	1
5.34	7673 E	•Purifier Element	1
5.35	7168-40 A	•Plug Assy	1
5.36	7867-03 A	••Allen Screw-M6x10 SST	2
5.37	7168-23 B	••End Cap	1
5.38	7168-25 C	••O-Ring-72,4x5,33	1
5.39	7168-24 B	••Backing Ring	2
5.40	7168-22 B	••Sealing Cap	1
5.41	7168-33 D	••Pin	1
5.42	7168-32 D	••Plug	1
5.43	7168-34 C	••Nut	2

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

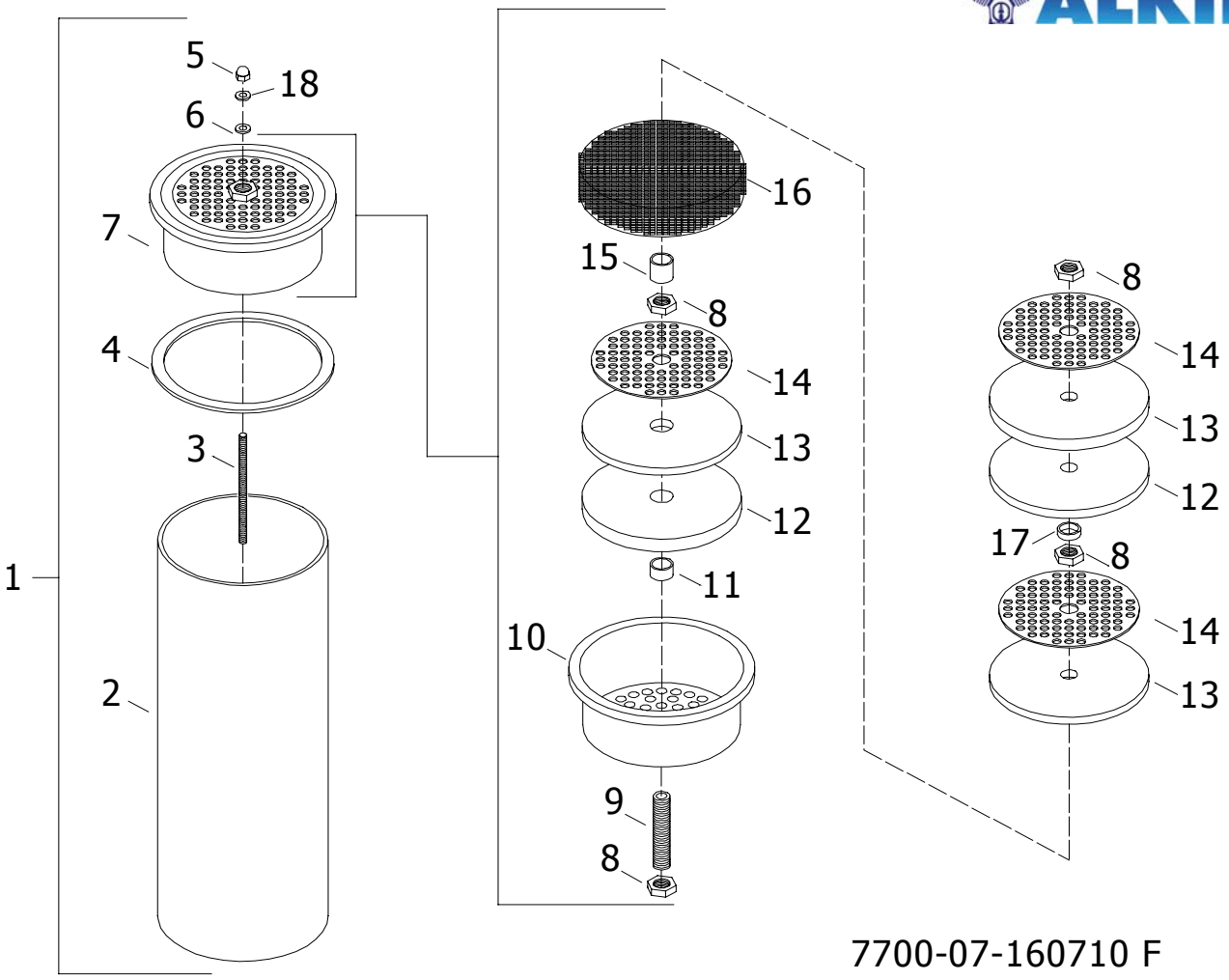
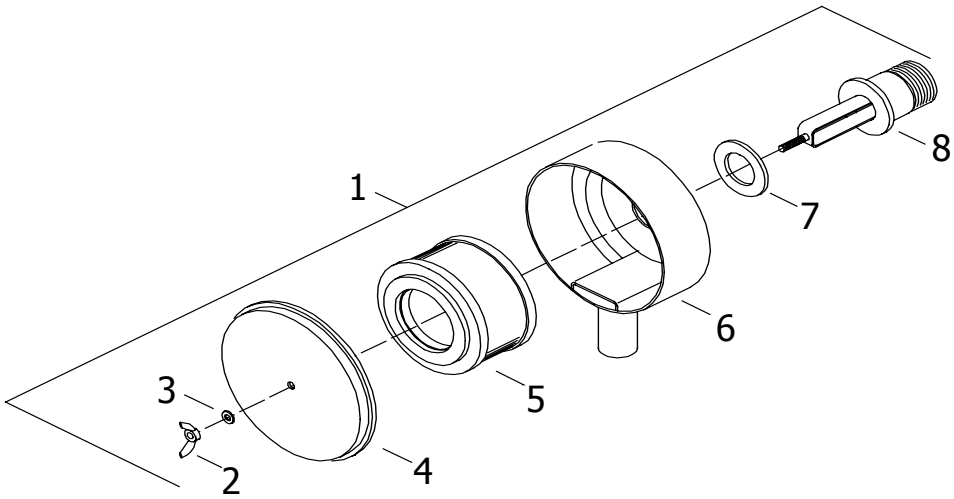


FIGURE 6 - Model W4 Compressors Drain Collector

Pos.Nr	Part Nr.	Description		Qty
6.1	**7752-09 A**	**Drain collector ass'y**		**1**
6.2	7752-08 D	Drain collector body		1
6.3	7780-02 A	Tie rod	M8x150	1
6.4	7894-09 B	Gasket		1
6.5	6883-04 A	Acorn nut	M8	1
6.6	7091-31 A	Washer	M8	1
6.7	**7894-01 A**	**Filter complette**		**1**
6.8	7894-05 A	•Nut		4
6.9	7894-04 B	•Threaded hose		1
6.10	7894-02 B	•Filter housing		1
6.11	7894-06 B	•Sleeve		1
6.12	7894-11 A	•Filter mat		2
6.13	7894-12 A	•Filter mat		3
6.14	7894-03 B	•Perforeted plate		3
6.15	7894-07 B	•Sleeve		1
6.16		•Active Cabon		250 g
6.17	7894-08 B	•Sleeve		1
6.18	7091-32 A	Spring Washer		1

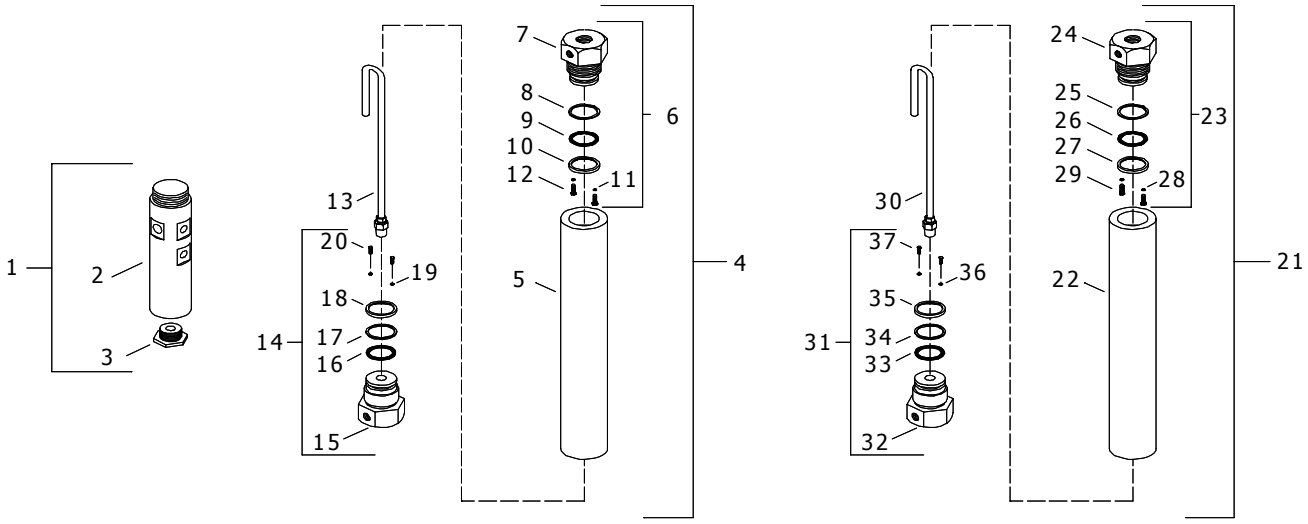


7700-08-020603 B

FIGURE 7 - Inlet Filter Assemly

Pos.Nr	Part Nr.	Description	Qty
7.1	**6783-02 A**	**Inlet Filter Ass'y**	**1**
7.2	6783-06 A	•Butterfly Nut	1
7.3	7091-29 A	•Copper Washer (1/4")	1
7.4	6783-03 A	•Cover	1
7.5	6374 A	•Filter Element	1
7.6	6783-05 A	•Housing	1
7.7	6783-07 B	•Gasket	1
7.8	6783-16 B	•Suction Filter Holder	1

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR



7700-09-020603 C

FIGURE 8 - Water Separators

Pos.Nr	Part Nr.	Description	Qty
8.1	**6320 A**	**Water separator ass'y-2nd stage**	**1**
8.2	6320-01 F	•Body	1
8.3	7185-01 B	•Reducing Bush-3/4x1/4	1
8.4	**7055-25 C**	**Water separator ass'y-3rd stage**	**1**
8.5	7055-19 C	•Body	1
8.6	7055-26 A	•Top Cover Ass'y	1
8.7	7055-21 D	••Cover-Top	1
8.8	7055-22 C	••Backing Ring	1
8.9	7055-24 A	••O-Ring	1
8.10	7055-23 B	••Ring	1
8.11	7091-17 A	••Washer (M6 SST)	2
8.12	7867-67 A	••Hex. Screw (M6x10 SST)	2
8.13	7055-06 B	•Diffuzer	1
8.14	7055-27 A	•Bottom Cover Ass'y	1
8.15	7055-20 D	••Bottom Cover	1
8.16	7055-22 C	••Backing Ring	1
8.17	7055-24 A	••O-Ring	1
8.18	7055-23 B	••Ring	1
8.19	7091-17 A	••Washer (M6 SST)	2
8.20	7867-67 A	••Hex. Screw (M6x10 SST)	2
8.21	**7055-25 C**	**Water separator ass'y-4rd stage**	**1**
8.22	7055-19 C	•Body	1
8.23	7055-26 A	•Top Cover Ass'y	1
8.24	7055-21 D	••Cover-Top	1
8.25	7055-22 C	••Backing Ring	1
8.26	7055-24 A	••O-Ring	1
8.27	7055-23 B	••Ring	1
8.28	7091-17 A	••Washer (M6 SST)	2
8.29	7867-67 A	••Hex. Screw (M6x10 SST)	2
8.30	7055-06 B	•Diffuzer	1
8.31	7055-27 A	•Bottom Cover Ass'y	1
8.32	7055-20 D	••Bottom Cover	1
8.33	7055-22 C	••Backing Ring	1
8.34	7055-24 A	••O-Ring	1
8.35	7055-23 B	••Ring	1
8.36	7091-17 A	••Washer (M6 SST)	2
8.37	7867-67 A	••Hex. Screw (M6x10 SST)	2

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

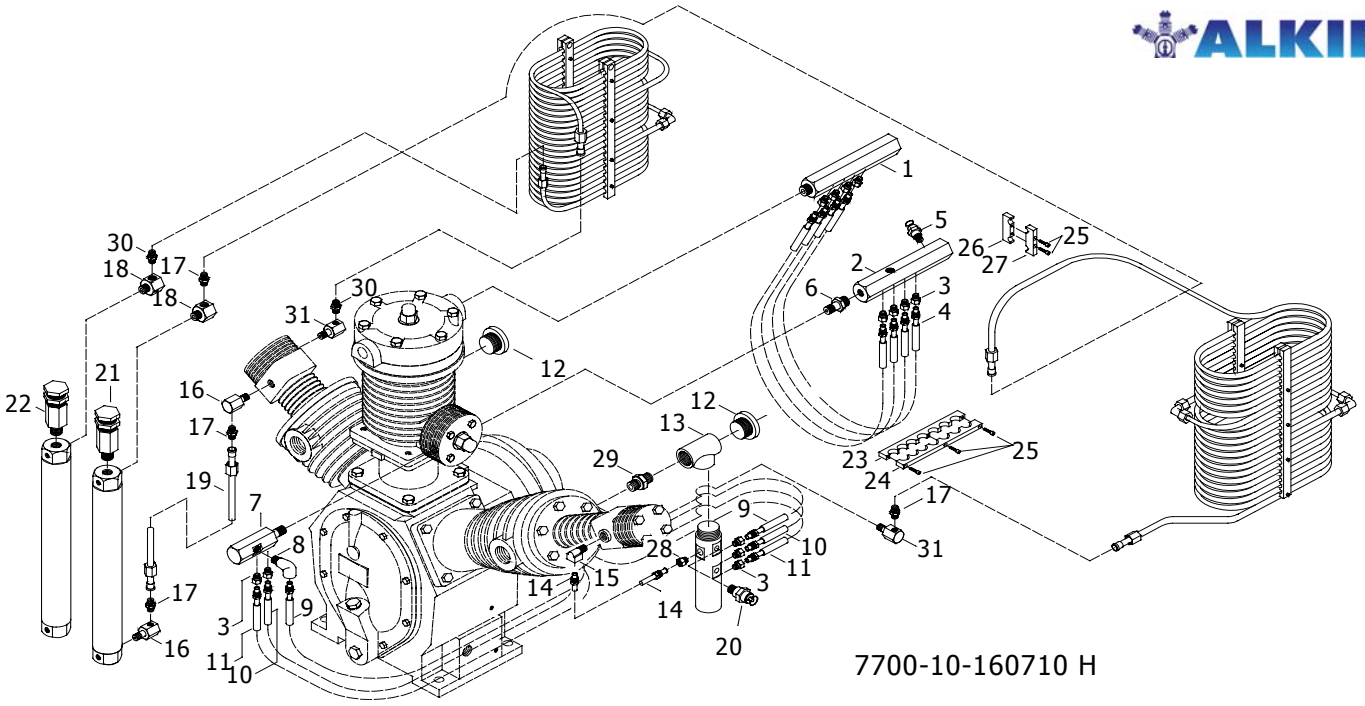
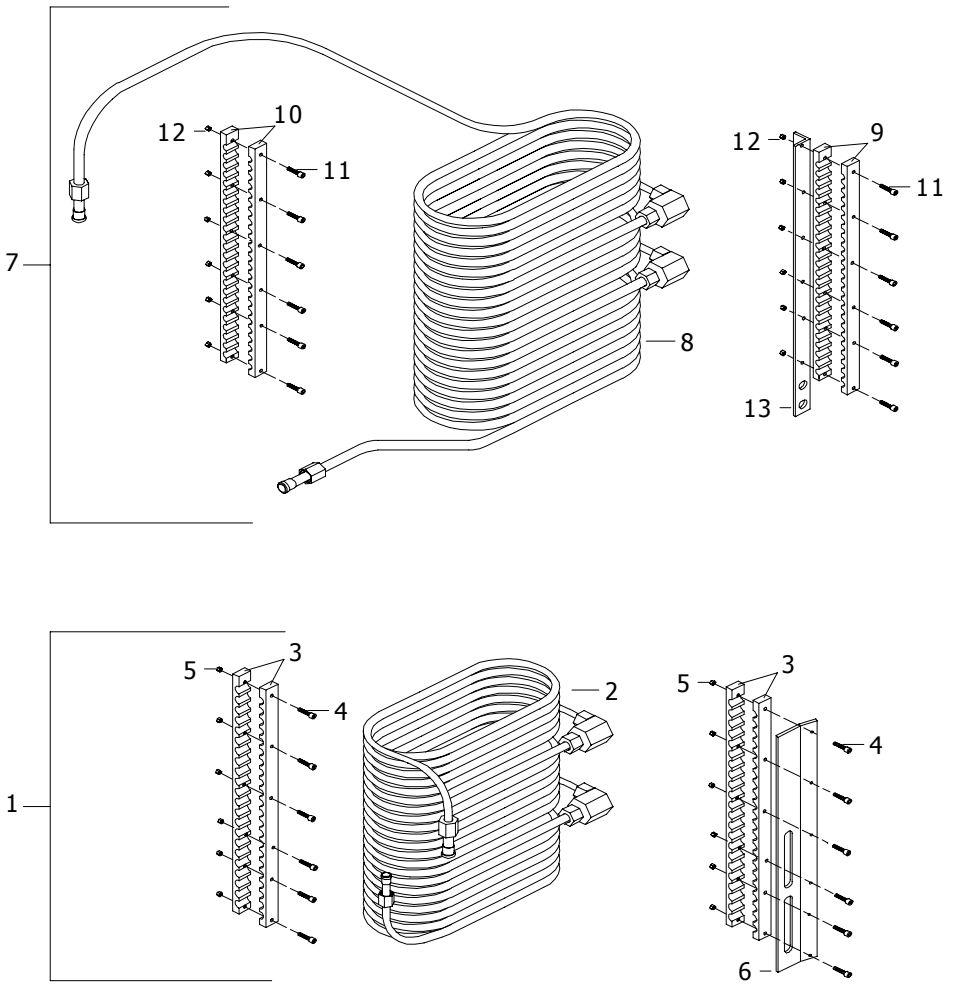


FIGURE 9 - Compressed Air Piping w/o Dryer

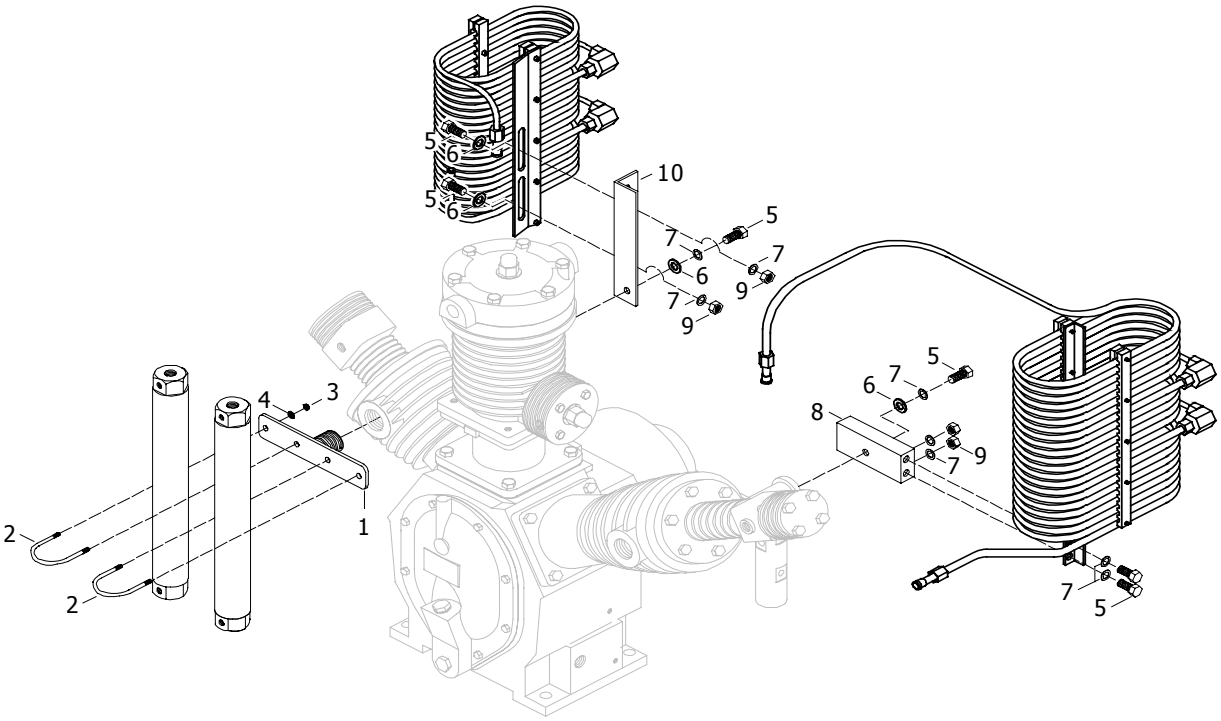
Pos.Nr	Part Nr.	Description	Qty
9.1	6450-02 C	Manifold-1st stg outlet	1
9.2	6451-02 F	Manifold-2nd stg inlet	1
9.3	5008 C	Fitting-3/8"x1/2"	14
9.4	7068-01 B	Intercoolers-1st stg,2nd stg.	4
9.5	7933-01 A	Safety valve-5 bar	1
9.6	7121 E	Nipple	1
9.7	6452-02 D	Manifold-2nd stg outlet	1
9.8	7080-03 A	Street elbow-3/8" brass	1
9.9	7068-04 B	Intercooler-2nd stg,3rd stg.	1
9.10	7068-02 B	Intercooler-2nd stg,3rd stg.	1
9.11	7068-03 B	Intercooler-2nd stg,3rd stg.	1
9.12	7696-02 B	Plug-1 1/4"	2
9.13	7079-13 A	Tee-1 1/4"	1
9.14	7068-05 B	Tube assy	1
9.15	5010-01 A	Connector-3/8"	1
9.16	7084-02 B	Elbow-1/4"x1/4"	2
9.17	7424-01 C	Nipple-1/4"xØ12	4
9.18	7672-06 B	Elbow-1/4"x1/4"	2
9.19	7177-01 D	Tube assy	1
9.20	7933-03 A	Safety valve-20 bar	1
9.21	7933-06 A	Safety valve-80 bar	1
9.22	-	Safety valve	1
9.22.1	7933-08 A	Safety valve-240 bar	
9.22.2	7933-09 A	Safety valve-310 bar	
9.22.3	7933-12 A	Safety valve-425 bar	
9.23	7291-12 B	Bracket	1
9.24	7291-10 B	Bracket	1
9.25	7867-45 A	Allen screw-M4x30 SST	5
9.26	7291-13 B	Bracket	1
9.27	7291-14 B	Bracket	1
9.28	5007 B	Fitting-3/8"x1/4"	1
9.29	7114 A	Nipple 1 1/4"	1
9.30	7425-01 D	Fitting-1/4"XØ10	2
9.31	7118-00 D	Nipple 1/4"x1/4"	2



7700-11-240105 D

FIGURE 10 - 3rd Stage Intercooler & Aftercooler

Pos.Nr	Part Nr.	Description	Qty
10.1	7309-01 D	Aftercooler complette	1
10.2	7309-02 A	•Aftercooler tube	1
10.3	7291-18 F	•Clamp	2
10.4	7867-45 A	•Allen screw-M4x30	12
10.5	6884-17 A	•Nut-M4	12
10.6	7291-08 E	•Bracket	1
10.7	7308-01 D	Intercooler complette-3rd stg	1
10.8	7308-02 A	•Intercooler tube-3rd stg	1
10.9	7291-17 E	•Clamp	1
10.10	7291-11 E	•Clamp	1
10.11	7867-45 A	•Allen screw-M4x30	12
10.12	6884-17 A	•Nut-M4	12
10.13	7291-06 F	•Bracket	1



7700-12-190710 G

FIGURE 11 - Supports For Coolers and Water Separators

Pos.Nr	Part Nr.	Description		Qty
11.1	7070-01 B	Plate		1
11.2	7813-02 C	Clamp		2
11.3	6884-21 A	Nut-lock	M6	4
11.4	7091-17 A	Washer	M6	4
11.5	7096-21 A	Hex. Screw	1/2x1	2
11.6	7091-18 A	Washer	1/2"	2
11.7	7091-19 A	Lock washer	1/2"	6
11.8	7291-05 C	U cannel		1
11.9	6884-06 A	Nut	1/2" UNC	4
11.10	7291-07 D	Bracket		1

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

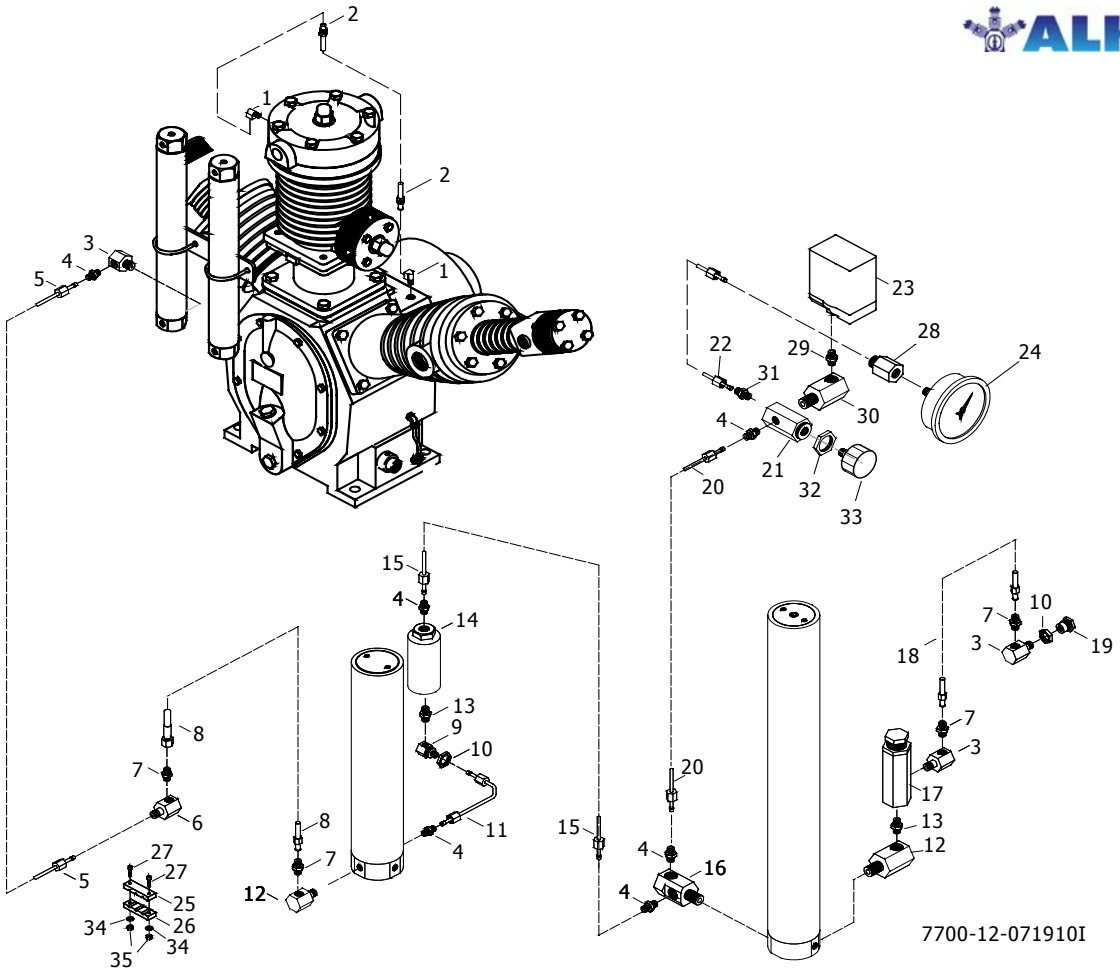


FIGURE 12 - General Piping

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

Pos.Nr	Part Nr.	Description	Qty
12.1	5010-01 A	Elbow 49w 3/8x1/4"	2
12.2	7182-02 B	Tube-3/8	1
12.3	7672-06 B	1/4"x1/4" Elbow Connector	3
12.4	7422-01 C	1/4"xØ6 Connector	6
12.5	7183-18 B	Tube Ø6,sst	1
12.6	7672-01 B	1/4"xØ6 Elbow Connector	1
12.7	7890-01 B	Nipple 1/4" npt - M16	4
12.8	7912-12 A	Hose-100 cm	1
12.9	7742-01 C	Connector 5/8" - 1/4" npt	1
12.10	7145-02 B	Nut 5/8"	3
12.11	7183-41 A	Tube Ø6, paslanmaz	1
12.12	7084-02 B	Connector 1/4" npt	2
12.13	7078-15 B	Nipple - 1/4" npt	3
12.14	7140 C	Check Valve	1
12.15	7183-21 A	Tube Ø6, paslanmaz	1
12.16	7084-03 B	Connector 1/4" npt	1
12.17	6460 E	Priority Valve	1
12.18	7912-13 A	Hose-80cm	1
12.19	7051 D	Reducing 1/4" npt - 5/8"	1
12.20	7183-19 A	Tube Ø6, paslanmaz	1
12.21	7053-05 A	Purifier Vent Valve	1
12.22	7183-45 A	Tube Ø6, paslanmaz	1
12.23	80071-01 A	Pressure gauge (XML-A500D2S11)	1
12.24	7235-07 A	Pressure gauge (400 bar)	1
12.25	7291-01 C	Clamp	2
12.26	7291-02 C	Clamp	2
12.27	7867-57 A	Allen screw - M4x20	6
12.28	7820 D	Pressure gauge nipple	1
12.29	7078-15 B	Nipple - 1/4" npt	1
12.30	7084-09 A	TE 1/4" NPT	1
12.31	7423-01 E	1/8"xØ6 Connector	1
12.32	7145-02 B	Nut	1
12.33	7053-02 C	Handle	1
12.34	7091-36 A	Washer	2
12.35	6884-25 E	Nut-lock	2

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

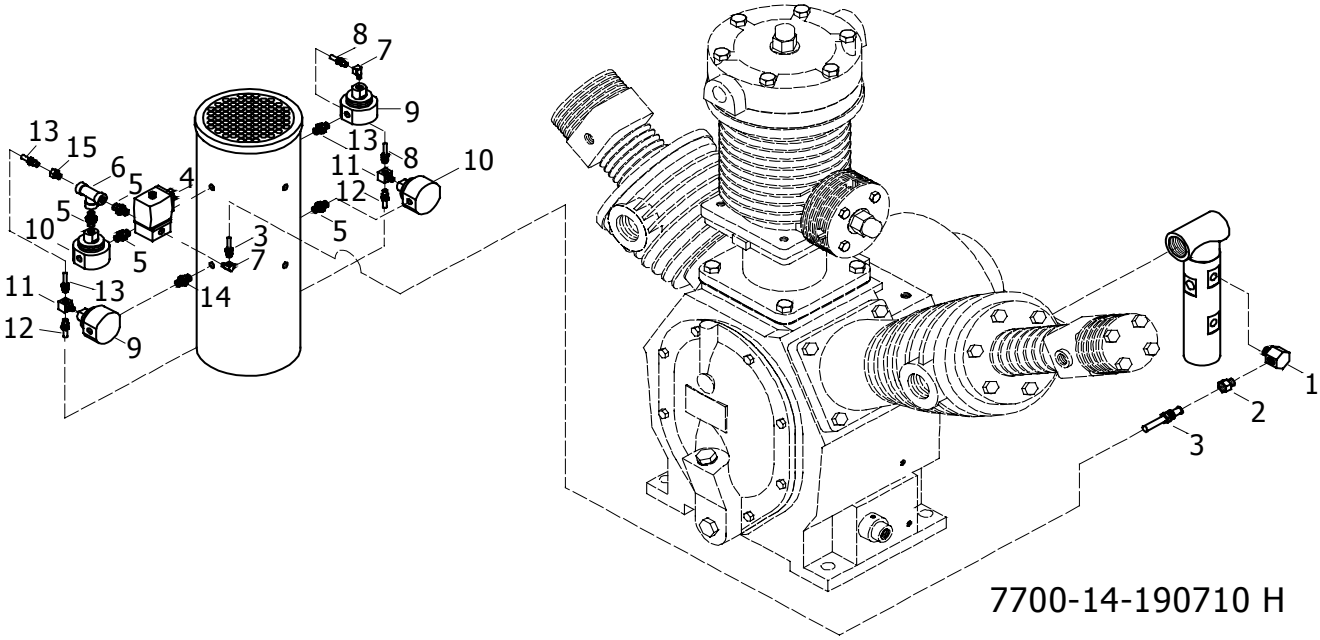


FIGURE 13-Drain Control Line

Pos.Nr	Part Nr.	Description	Qty
13.1	7672-07 B	Tee-1/4x1/4	1
13.2	5006 B	Fitting-5/16x1/4	1
13.3	7937-04 B	Tube-Ø8 copper	1
13.4	6398-09 A	Drain control valve	1
13.5	7078-07 A	Nipple-1/8x1/8 NPT (sst)	4
13.6	7079-07 A	Tee-1/8	1
13.7	5009 B	Elbow-1/8xØ8	2
13.8	7937-01 A	Tube-Ø8 copper	1
13.9	6436-03 B	Drain valve	2
13.10	-	Drain valve	2
13.10.1	6436-01 C	Drain valve (340 Bar)	
13.10.2	6436-14 A	Drain valve (415 Bar)	
13.11	7134 A	Tee-1/8x5/16"	2
13.12	7937-02 A	Tube-Ø8 copper	1
13.13	7937-03 B	Tube-Ø8 copper	1
13.14	7078-02 A	Nipple-1/8x1/8 NPT	2
13.15	5005-00 D	Fitting-5/16x1/8	1

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

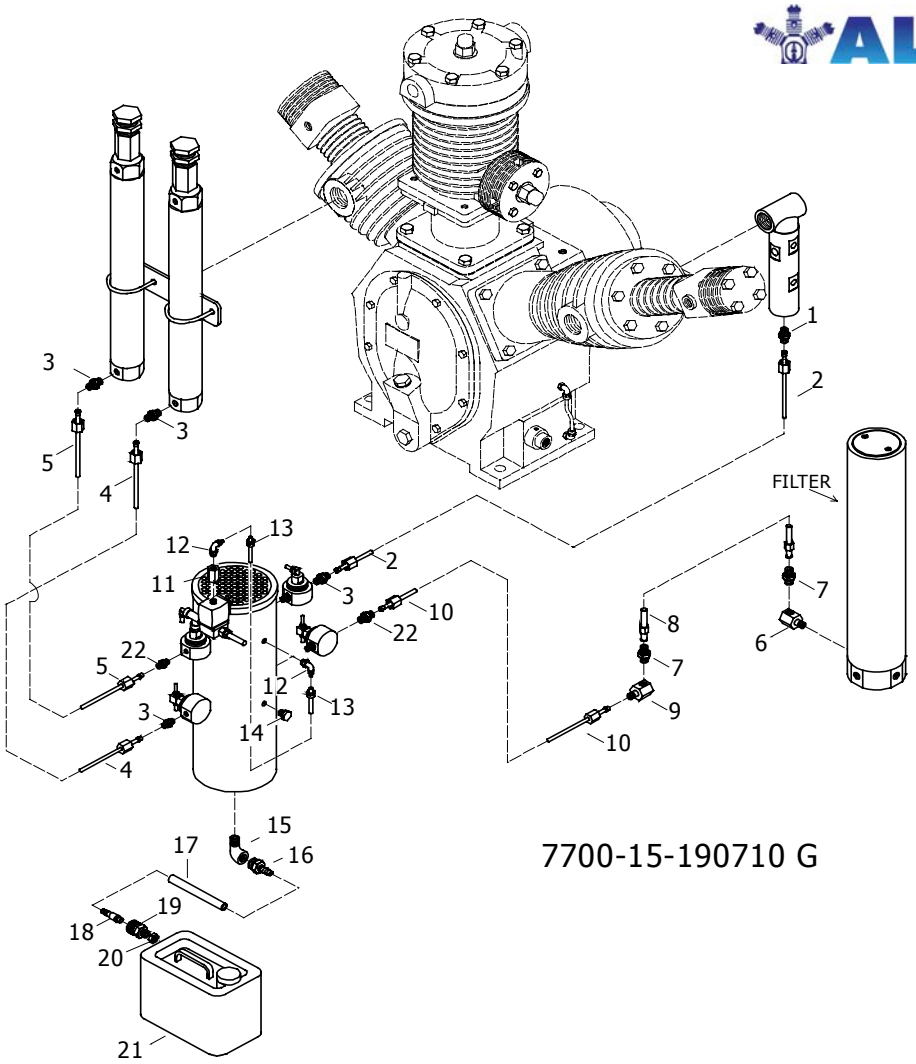


FIGURE 14 - Drain Piping

Pos.Nr	Part Nr.	Description	Qty
14.1	7422-01 C	Fitting-1/4xØ6, sst	1
14.2	7938-01 A	Tube-Ø6 sst	1
14.3	7423-01 E	Fitting-1/8xØ6, sst	4
14.4	7938-02 C	Tube-Ø6 sst	1
14.5	7938-03 A	Tube-Ø6 sst	1
14.6	7084-02 B	Connector	1
14.7	7890-01 B	Nipple	2
14.8	7912-12 A	Hose-100 cm	1
14.9	7672-01 B	1/4"xØ6 Elbow Connector	1
14.10	7938-04 A	Tube-Ø6 sst	1
14.11	7192-01 A	Socket-1/8	1
14.12	7187-06 A	Elbow fitting,1/8xØ6 for pl tube	2
14.13	80533-00 A	Tube-Ø6 pl	0.30 Mt.
14.14	7083-01 A	Plug-1/8"	1
14.15	7080-04 A	Street elbow 1/2"	1
14.16	7967-03 A	Hose Nipple 1/2"	1
14.17	80538-01 A	Hose 8/13	1 Mt.
14.18	7967-04 A	Drain can connector ending	1
14.19	7967-01 A	Drain can connector	1
14.20	7967-02 A	Drain can connector nut	1
14.21	80545-00 A	Can (10 Lt.)	1
14.22	7423-04 A	Fitting-1/8xØ6, sst	2

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

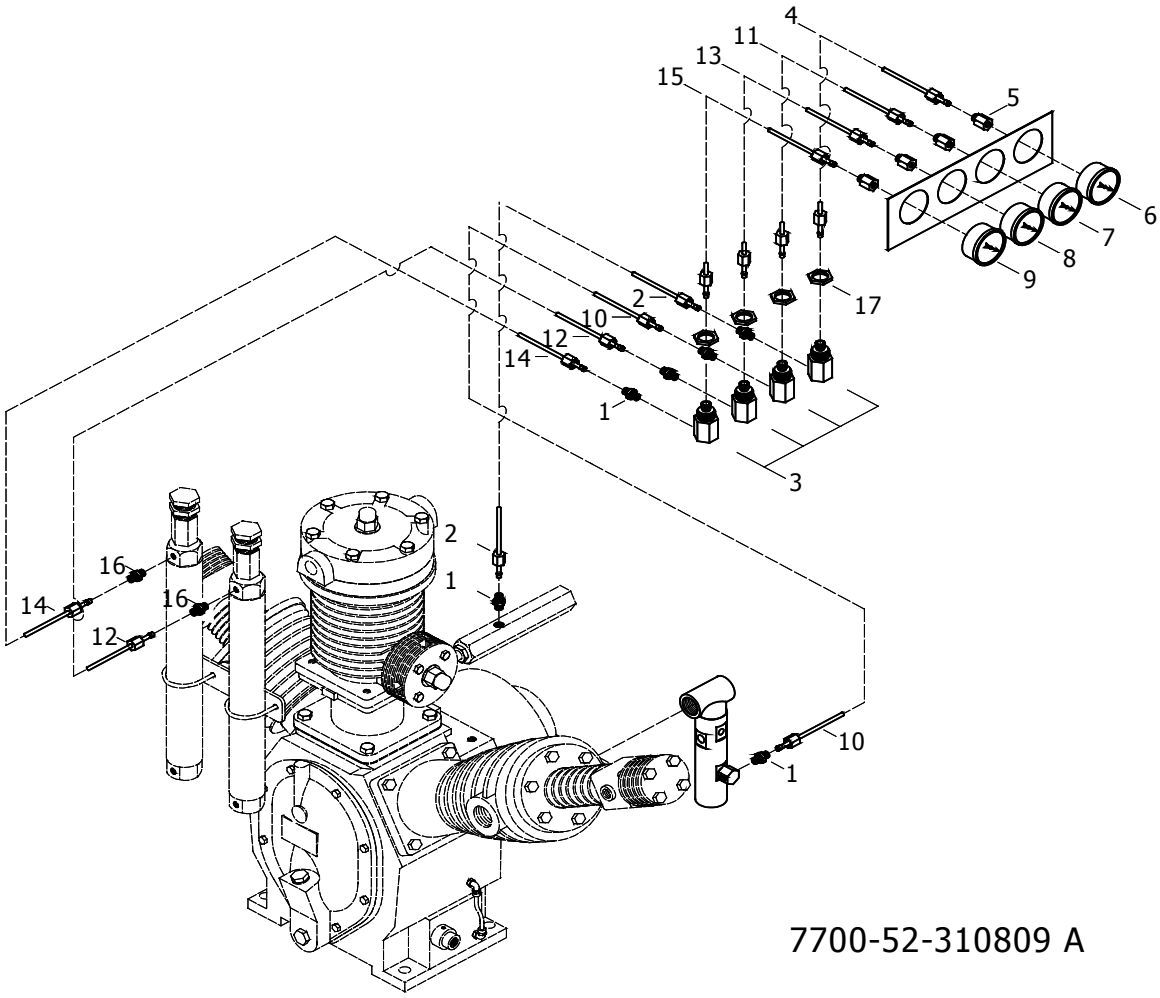
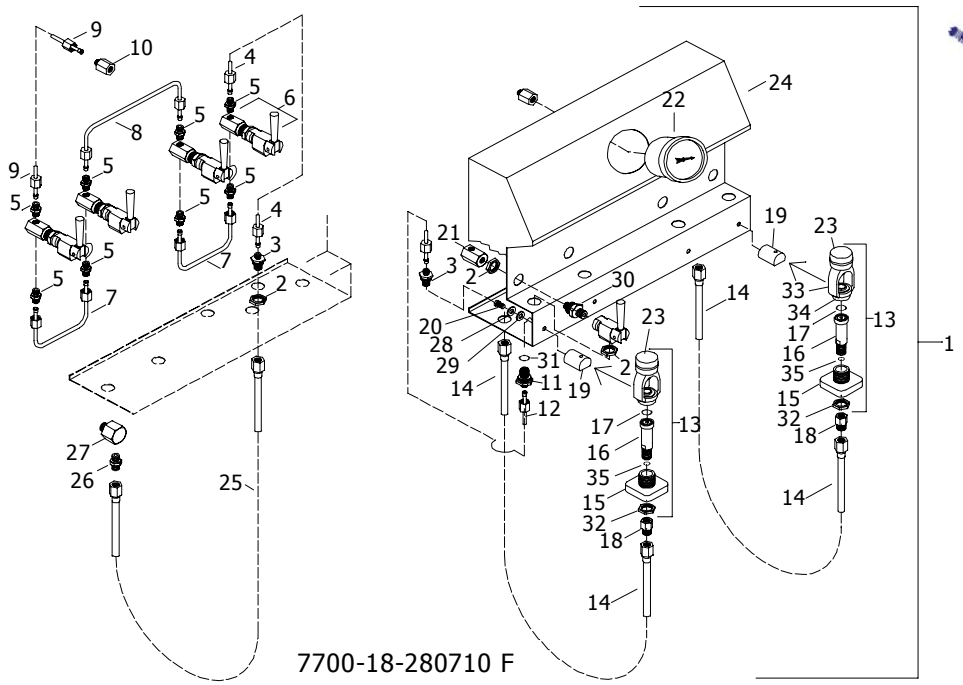


FIGURE 15 - Pressure Gague Piping (W4- -310&415-FP6)

Pos.Nr	Part Nr.	Description	Qty
15.1	7422-01 C	Fitting-1/4xØ6, sst	6
15.2	7183-08 A	Tube-Ø6 sst	1
15.3	7742-01 C	Pressure gage nipple	4
15.4	7183-11 A	Tube-Ø6 sst	1
15.5	7820 D	Pressure gauge connector	4
15.6	7235-01 A	Pressure gauge-10 bar	1
15.7	7235-03	Pressure gauge-25 bar	1
15.8	7235-05 A	Pressure gauge-100 bar	1
15.9	-	Pressure gauge	1
15.9.1	7235-07 A	Pressure gauge-400 bar (310 BAR)	
15.9.2	7235-13 A	Pressure gauge-7000 PSI (415 BAR)	
15.10	7183-07 A	Tube-Ø6 sst	1
15.11	7183-12 A	Tube-Ø6 sst	1
15.12	7183-09 B	Tube-Ø6 sst	1
15.13	7183-13 A	Tube-Ø6 sst	1
15.14	7183-10 C	Tube-Ø6 sst	1
15.15	7183-14 A	Tube-Ø6 sst	1
15.16	7423-01 E	Fitting-1/8xØ6, sst	2
15.17	7145-02 B	Nut	4

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

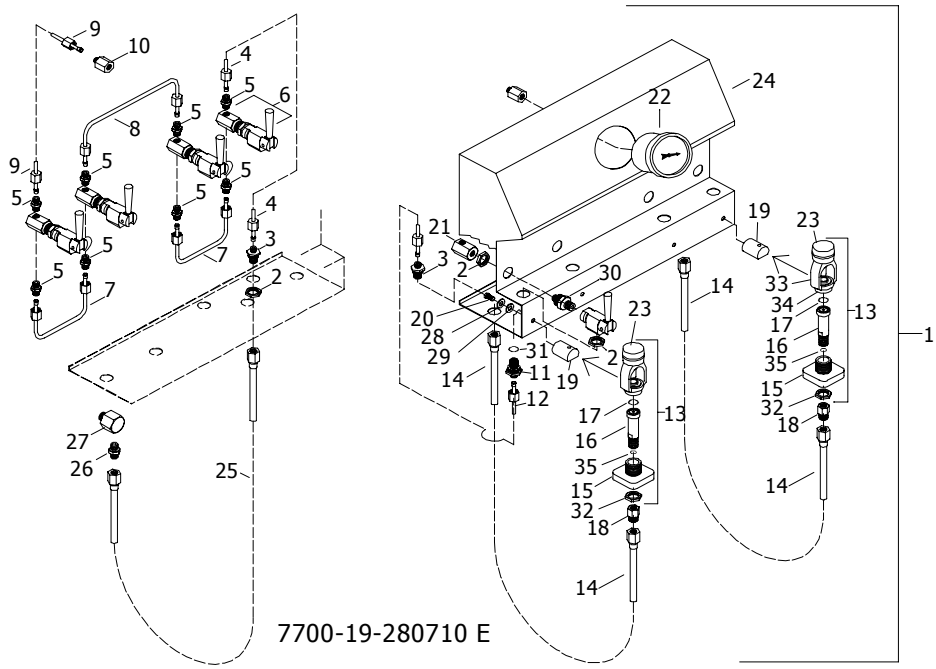


NOTE : This figure is only for the compressors equipped with filling board.

FIGURE 16- Single Pressure Filling Piping (225 Bar)

Pos.Nr	Part Nr.	Description	Qty
16.1	**7700-18 E**	**Filling panel ass'y**	**1**
16.2	7866-11 B	Nut 5/8"	13
16.3	7866-26 B	Connector	5
16.4	7882-01 A	Tube	1
16.5	7422-01 C	Fitting-1/4"xØ6	8
16.6	7866-00 A	Filling valve	4
16.7	7882-02 A	Tube	2
16.8	7882-07 A	Tube	1
16.9	7882-08 A	Tube	1
16.10	7820-00 D	Connector	1
16.11	7866-21 A	Connector	4
16.12	7882-06 A	Tube	4
16.13	**7429-00 A**	**Bottle connection ass'y-(225 bar)**	**4**
16.14	7912-12 A	•Hose	4
16.15	7880-03 A	•Handle-Bottle connection	4
16.16	7880-05 C	•Bottle connection	4
16.17	7880-06 B	•O-ring (Ø10.8xØ1.78)	4
16.18	7891-04 B	•Connector	4
16.19	7038-00 A	Seat-Bottle connection	4
16.20	7868-01 A	Hex.screw-M8x15	4
16.21	7866-20 A	Manifold	4
16.22	7235-11 A	Pressure gauge	1
16.23	7429-03 A	Handle	4
16.24	7041-02 A	Filling panel	1
16.25	7912-03 A	Hose;1/4"x60	1
16.26	7890-01 B	Hose nipple	1
16.27	7672-06 B	Elbow-1/4"x1/4"	1
16.28	7091-32 A	Lock washer M8	4
16.29	7091-31 A	Washer M8	4
16.30	7866-22 A	Connector	4
16.31	6460-10 A	O-ring (Ø7.66xØ1.78)	4
16.32	7670-03 A	Nut	4
16.33	7429-01 B	Yoke	4
16.34	7429-02 A	Connector	4
16.35	7829-04 A	O-ring (Ø6.07xØ1.78)	4

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR



NOTE : This figure is only for the compressors equipped with filling board.

FIGURE 17- Single Pressure Filling Piping (310 Bar)

Pos.Nr	Part Nr.	Description	Qty
17.1	**7700-19 E**	**Filling panel ass'y**	**1**
17.2	7866-11 B	Nut 5/8"	13
17.3	7866-26 B	Connector	5
17.4	7882-01 A	Tube	1
17.5	7422-01 C	Fitting-1/4"xØ6	8
17.6	7866-00 A	Filling valve	4
17.7	7882-02 A	Tube	2
17.8	7882-07 A	Tube	1
17.9	7882-08 A	Tube	1
17.10	7820-00 D	Connector	1
17.11	7866-21 A	Connector	4
17.12	7882-06 A	Tube	4
17.13	**7891-07 A**	**Bottle connection ass'y-(330 bar)**	**4**
17.14	7912-12 A	•Hose	4
17.15	7880-03 A	•Handle-Bottle connection	4
17.16	7880-04 A	•Bottle connection	4
17.17	7880-06 B	•O-ring	4
17.18	7891-04 B	•Connector	4
17.19	7038-00 A	Seat-Bottle connection	4
17.20	7868-01 A	Hex.screw-M8x15	4
17.21	7866-20 A	Manifold	4
17.22	7235-11 A	Pressure gauge	1
17.23	7429-03 A	Handle	4
17.24	7041-02 A	Filling panel	1
17.25	7912-03 A	Hose;1/4"x60	1
17.26	7890-01 B	Hose nipple	1
17.27	7672-06 B	Elbow-1/4"x1/4"	1
17.28	7091-32 A	Lock washer M8	4
17.29	7091-31 A	Washer M8	4
17.30	7866-22 A	Connector	4
17.31	6460-10 A	O-ring (Ø7.66xØ1.78)	8
17.32	7670-03 A	Nut	4
17.33	7429-01 B	Yoke	4
16.34	7429-02 A	Connector	4
16.35	7829-04 A	O-ring (Ø6.07xØ1.78)	4

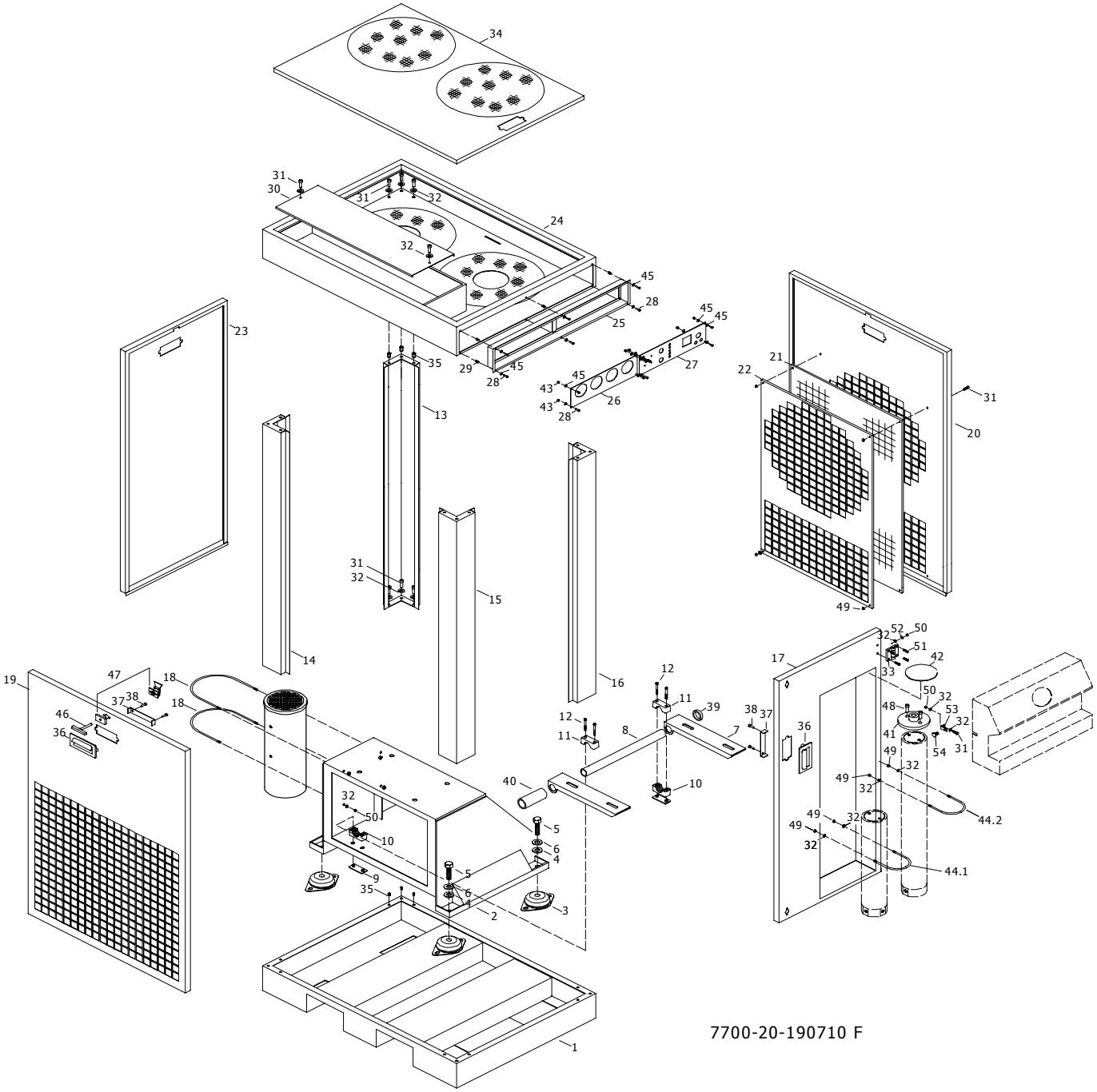
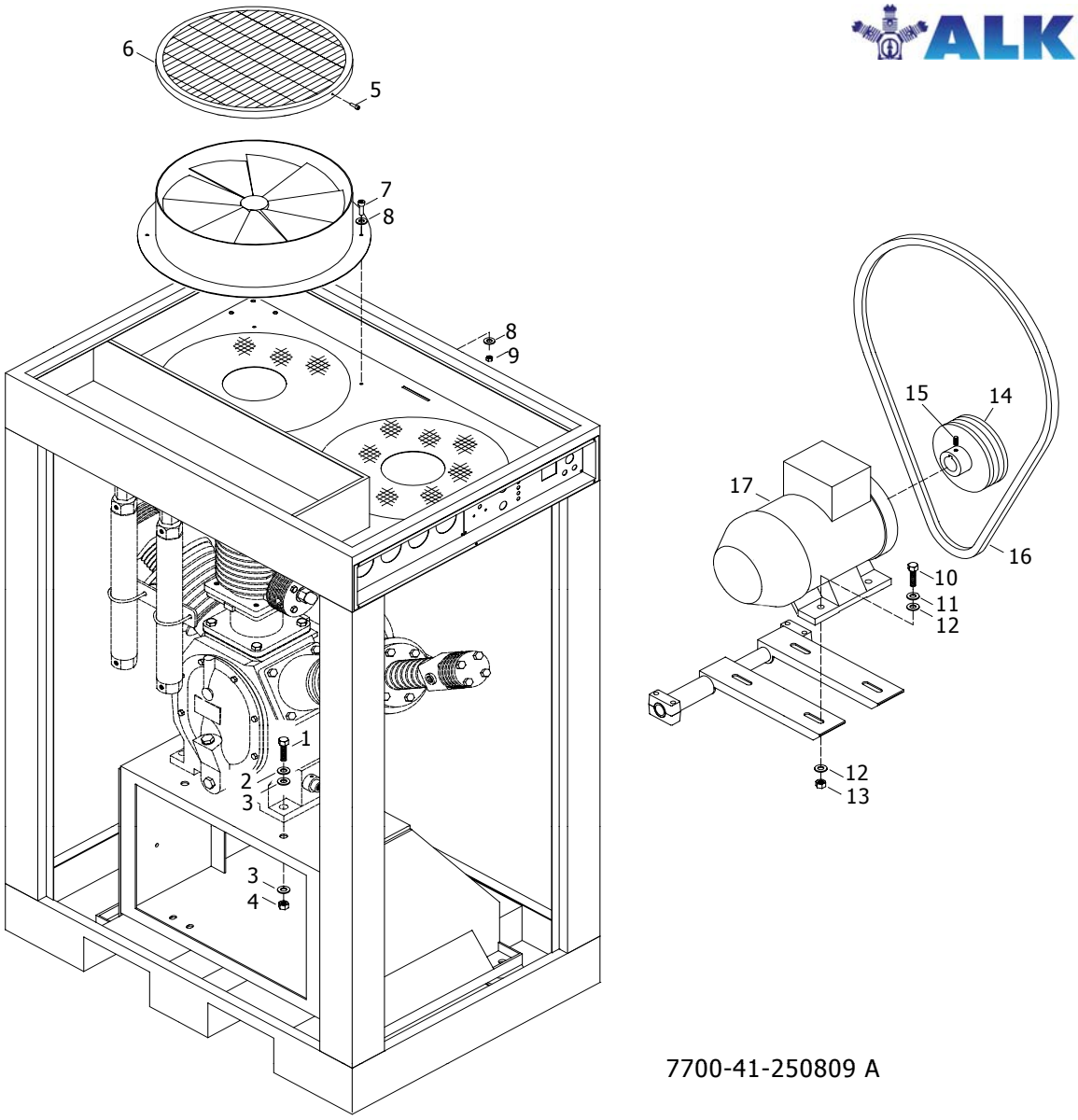


FIGURE 18 - CANOPY (FLP)

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR

Pos.Nr	Part Nr.	Description	Qty
18.1	7041-01 B	Subbase	1
18.2	7335-04 O	Base-Compressor&Motor	1
18.3	6414 B	Vibration Mount	4
18.4	7091-06 A	Washer-M16	4
18.5	7867-36 A	Hex. Screw-M16x40	4
18.6	7091-20 A	Lock Washer-M16	4
18.7	6810-10 C	Rotary Motor Slide	2
18.8	7822-02 C	Shaft	1
18.9	7349-03 A	Plate	2
18.10	7349-02 A	Hinge-Bottom Half	2
18.11	7349-01 A	Hinge-Top Half	2
18.12	7867-47 A	Allen Screw-M10x70	4
18.13	6810-11 C	Column-back Right	1
18.14	6810-58 A	Column-Fr.Left	1
18.15	6810-11 C	Column-Fr.Right	1
18.16	6810-54 E	Column-back left	1
18.17	6810-73 A	Door (Side)	1
18.18	7813-01 B	Clamp	2
18.19	6810-72 A	Door (Rear)	1
18.20	6810-15 C	Panel	1
18.21	6810-64 A	Filter Screen	1
18.22	6810-16 B	Grill (Side)	1
18.23	6810-18 A	Door (Side)	1
18.24	6810-56 A	Hood-Fans	1
18.25	6810-21 C	Frame	1
18.26	6810-23 A	Gague Panel	1
18.27	6810-22 D	Instrument Panel	1
18.28	7868-09 A	Allen Screw-M4x16 SST	14
18.29	7823-01 A	Nut-Insert -M4	6
18.30	6810-44 C	Electrical Panel	1
18.31	7867-09 A	Allen Screw-M6x20 SST	30
18.32	7091-17 A	Washer-M6 SST	48
18.33	7181-04 A	Hinge	4
18.34	6810-14 C	Cover-Hood	1
18.35	7823-03 A	Nut-Insert -M6	26
18.36	7881-02 A	Door Holder	5
18.37	6387-13 A	Plate	5
18.38	7867-67 A	Hex. Screw-M6x10	10
18.39	7908-01 A	Plug	2
18.40	7908-02 A	Sleeve (7.5 kW)	1
18.41	7369 D	Purifier adapter tool	1
18.42	7168-55 A	Plastic plug	2
18.43	6884-17 A	Nut-M4	8
18.44.1	7813-04 A	Clamp	1
18.44.2	7813-07 B	Clamp	1
18.45	7091-36 A	Washer-M4 SST	22
18.46	7881-03 A	Handle	2
18.47	7881-01 A	Lock	6
18.48	7867-91 A	Allen Screw-M10x25 SST	2
18.49	6883-03 A	Acorn Nut -M6 SST	4
18.50	6884-21 A	Lock Nut-M6 SST	12
18.51	7934-05 A	Screw-hinge	16
18.52	7091-42 A	Lock washer-M6	16
18.53	7909-01 A	Bracket	1
18.54	7909-02 A	Handle	1

PARTS LIST - W4 SERIES VERTICAL COMPRESSOR



7700-41-250809 A

FIGURE 19 - CANOPY (W4-11-310-FP 6M)

Pos.Nr	Part Nr.	Description		Qty
19.1	7096-24 A	Hex. Screw-5/8x2 1/2		4
19.2	7091-27 A	Lock Washer-5/8"		4
19.3	7091-26 A	Washer-5/8"		8
19.4	6884-16 A	Nut-5/8" unc		4
19.5	7867-04 A	Screw-Sheet iron		4
19.6	6810-70 A	Fan Guard		2
19.7	7867-09 A	Allen Screw-M6x20		8
19.8	7091-42 A	Washer-M6		16
19.9	6884-02 A	Nut-M6		8
19.10	7096-10 A	Allen Screw-1/2"x2"		4
19.11	7091-19 A	Lock washer-1/2"		4
19.12	7091-18 A	Washer -1/2"		8
19.13	6884-06 A	Nut -1/2" UNC		4
19.14	7976-16 A	Wheel,V Belt	Ø175xØ42xIIIx22	1
19.15	7867-32 A	Set screw	M8 x 10	2
19.16	7953-33 A	Belt	22x2175	3
19.17	80050-00 A	Electric Motor (QU160M2A)	15Hp 380V 50Hz 3000rpm	1